

NOV 6 1934

# CLINICAL MEDICINE AND SURGERY



VOLUME 41

November, 1934

NUMBER 11

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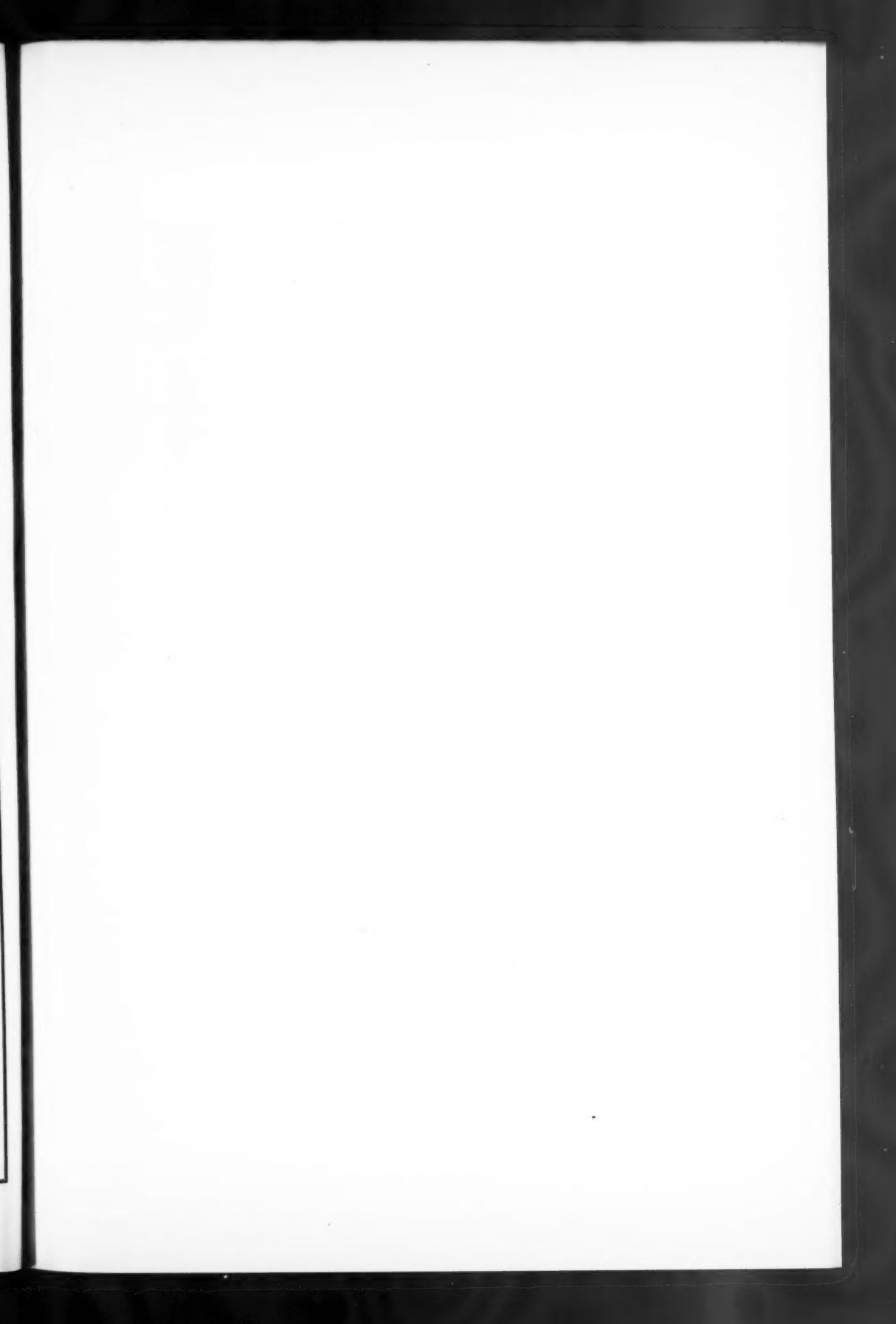
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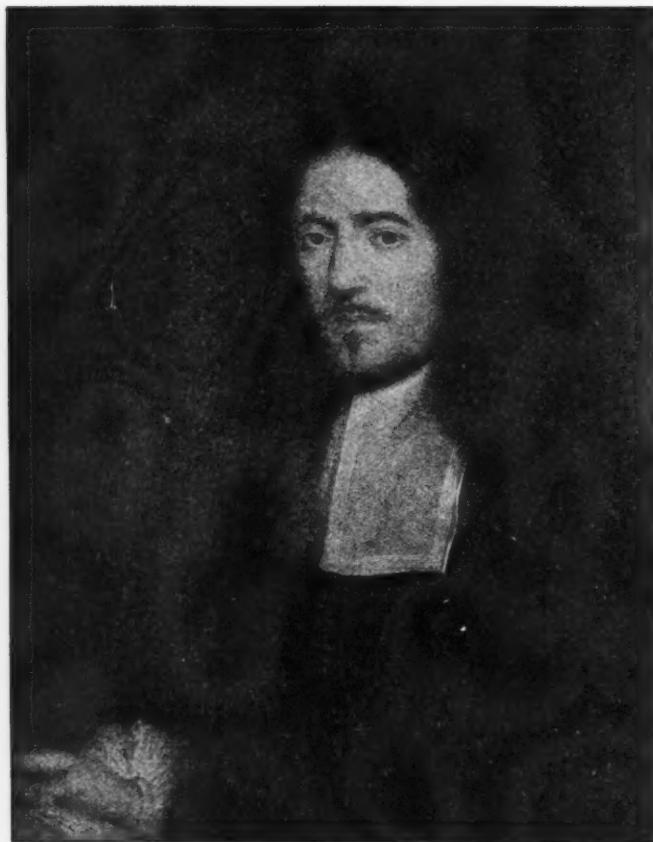
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MARCELLO MALPIIGHI



# CLINICAL MEDICINE AND SURGERY

GEORGE B. LAKE, M.D.

• *Editor* •

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VOL. 41

NOVEMBER, 1934

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## EDITORIAL

### Marcello Malpighi Founder of Histology

**A**BOUT the time that Harvey's epoch-making announcements regarding the circulation of the blood were published (in 1628), making the existence of the capillaries a logical necessity, there was born, in the tiny village of Crevalcuore, Italy, not far from the city of Bologna, on the tenth of March in that eventful year, a baby who, in his maturity, was to make the existence of those same capillaries a histologic certainty.

The parents of Marcello Malpighi were poor, and so he remained at home until he was seventeen years old; and everybody loved him for his quick intelligence and his sunny and affectionate disposition. Then (in 1645) he went to the University of Bologna where, for four years, he studied philosophy.

In 1649 he became a pupil of the peripatetic philosopher, Natali, who gave him at least one good piece of advice when he told him to study medicine. So, in 1651, he began his studies under Massari, professor of medicine at the University; and here, among other things, he fell in love with and later married the daughter of his teacher.

In 1656 he was nominated as lecturer in medicine at the University of Bologna, but Ferdinand, grand duke of Tuscany, created for him the chair of theoretical medicine at the University of Pisa, at which institution he first came in contact with the quarrelsome, aggressive and often unbearable Borelli, who later brought much bitterness into the personal life of the peaceful and scholarly Malpighi.

Here the young researcher laid the foundation for his title, "Founder of Histology," by discovering the vesicular nature of the lungs, the relationship between the bronchi, bronchioles and air vesicles, and the fact that the blood passes from the arteries to the veins through minute vessels which we now call capillaries. These epoch-making discoveries were published in 1661.

The following year, the chair of medicine at the University of Messina, Sicily, became vacant through the death of Pietro Castelli, and Malpighi was invited to occupy it. On this sunny island Malpighi pushed his researches still further, discovering the gustatory nature of the papillae of the tongue; the lower layer of the epidermis (rete mucosum), which has since been called the Malpighian layer; the secretory character of the liver; the microscopic structure of the kidney where, to this day, we have Malpighi's tufts (glomeruli), Malpighi's pyramids and Malpighi's bodies (the terminal dilations of the convoluted uriniferous tubules); and the masses of adenoid tissue in the splenic pulp (Malpighi's corpuscles). He also (seven years after Schwammerdam) observed and described the red corpuscles of the blood, but did not recognize their character and function.

After four years at the Sicilian university, Malpighi became more or less homesick for his native district and returned to Bologna, where he was soon busy practicing medicine, performing autopsies, lecturing and carrying on investigations.

So far, his studies had been chiefly concerned with human histology, but in 1667 the Royal Society of England invited him to correspond with them and suggested the preparation of a treatise on the silkworm. Into this work Malpighi characteristically threw the full force of his great talents and produced a manuscript which was published in England, by the Society, as were several of his later communications.

His next venture with the microscope was into the vegetable kingdom, and here he was the first to discover sexual differences in plants and the tubercles produced by nitrifying bacteria on the roots of legumes. In fact, he established his claim to the title, "Founder of Plant Morphology and Physiology."

Then he turned his wise and well trained eye upon the chick and its development and, by a long and detailed series of observations and researches, created the science of embryology.

After he was forty-four years old, Malpighi did no more important original research work—he had already done enough to make three ordinary men famous and established his right to be called the greatest of microscopists. He was honored wherever science was known and his books had been published, not only in Bologna, but in London, Venice, Copenhagen, Leyden, Frankfort, Naples, Amsterdam, Paris and Geneva.

In 1691, much against his will, Malpighi became the personal physician of Pope Innocent XII, but his life in Rome was not to his liking, his health gradually failed and, after an attack of apoplexy, came to a close on November 29, 1694, when he was sixty-six years old.

So passed one of the greatest and sweetest souls which have ever adorned the history of medicine, leaving not only the record of having written many of the opening paragraphs of modern anatomy, physiology, histology, embryology and botany, but the memory of the most gracious and attractive personality of his time.

Today's achievements are but monuments to the vision and will power of men.

### Case Records and Malpractice

MOST suits for malpractice arise because the attending physician doesn't write enough or talks too much or both.

Most physicians are actually competent and conscientious, but some of them, if called into court by a disgruntled patient, have a

hard time proving it, because they have kept no adequate records of the examinations they made and the things they did for the plaintiff.

Adequate records vary a good deal in different cases, but they should always include a reasonably detailed history, not merely of the disease, but of the patient; full notes of a complete physical examination and of such laboratory tests as are reasonably indicated; roentgenograms of all fracture cases, showing progress from start to finish; a statement of just what was done or prescribed for the patient at every house or office call; and such other matters as are commonly noted by the best physicians in the neighborhood.

Moreover, these records should not be made on the margins of newspapers or the backs of old envelopes, but on regular and orderly cards or sheets of paper, not necessarily expensive, but neat and workmanlike and written in reasonably understandable English, so that, if they have to be shown to a jury, no one will suffer an attack of vertigo. If someone else does the laboratory work, the *original records* should be filed with the history; and if roentgenograms are made, the films themselves should be filed in a suitable place, as well as the roentgenologist's reports with the history.

The cost of the necessary equipment for keeping such records during an entire professional lifetime is negligible, when compared with that of one malpractice suit; and if such records are kept, such suits will not develop, because, when the patient's lawyer learns that these data are on file and in order, he will advise his client to lay off. This is prophylaxis.

The other chief source of danger can be avoided by remembering and acting upon the ancient adage, "Think before you speak." The quack promises more than he can perform. The wise physician promises nothing except intelligent, sincere and adequate care and attention. The outcome of any and every illness is on the knees of the gods. Probabilities may safely be mentioned, if this is done with discretion, but categoric statements are always dangerous.

If the outcome of some unusual type of treatment is in doubt or if it is more or less experimental, it may be well, in most cases, to state that fact, to the patient or his relatives, and obtain written consent to undertake such treatment without committing oneself as to the results.

When surgical operations, other than those of an emergency nature, are involved, it is

a wise idea, before embarking upon them, to obtain written permission to do whatever may appear to be necessary when the diseased parts are exposed.

One could fill a good-sized volume with detailed suggestions along this line, but they are really unnecessary if certain basic principles are adhered to rigorously: Keep fully abreast of the best medical thought by reading reliable medical journals *regularly* and sound and helpful books as frequently as is practicable. Recognized and up-to-date reference books should always be at hand for consultation; study and examine every patient carefully, and *keep records*; give every patient every care and attention which his case may possibly require, and *keep records of it*; do no more talking about the details of the case than is necessary to assure the intelligent cooperation of the patient and his family; neither forget nor neglect any service which may be necessary or desirable; in case of doubt, *get it in writing*; remember that the consulting room is, in many respects, like a confessional, and act accordingly.

—  
Your patient has no more right to all the truth you know than he has to all the medicine in your saddle-bags.—OLIVER WENDELL HOLMES.  
—

### The Importance of Forgetting

WE are constantly being reminded of the importance of memory, and that is well. The man who forgets duties, engagements, details of his business or profession and matters of that sort, will certainly fail to achieve any of the highly desirable material evidences and indices of success; and he who forgets the inspiring hours and days of his past, will deprive himself of some of the richest joys of life.

It will also be well, however, to give a thought to the importance of forgetting certain things at certain times. There are limits to the number of things any human being can remember, and when those limits are reached, any attempt to add another fact or circumstance will result in the crowding out of one that is already there. Even were that not true, a meticulously accurate and all-inclusive memory would be a curse.

Truth remains eternally, but our limited perception of it, in the form of incomplete and undigested facts and the necessarily erroneous conclusions based upon them, is constantly shifting and growing, and if we refuse to let go of any of the assumed knowledge which we have acquired in the past,

we will be unable to assimilate and use the newer information which is constantly coming to light. The medical graduate of a quarter-century ago, who tries to practice his profession as it was taught to him in school, will be doing his patients and himself a grave injustice.

It has been said that the greatest difficulty in the practice of adult education is to make the pupils forget a great many things that they "know," but which are proved to be untrue—like the superstition regarding the deleteriousness of "night air." The cultivation of the properly regulated art of forgetfulness is, in most cases, as definite and difficult an undertaking as is the pursuit of any other art.

This does not mean that we should ever give up any of our *real* knowledge, founded upon direct personal and practical experience and sound reasoning from it, but that we should recognize that our *assumed* knowledge, based upon the reasonable statements of others (which makes up ninety percent or more of our equipment), is to be held only tentatively and subject to revision as new facts are discovered.

On the intangible (and, therefore, truly real) side of our life experience, it is important not only that we remember all of the pleasant and truly educational experiences which we have had, but also that we forget all the unpleasant experiences which have not made a genuine contribution to our equipment of wisdom. Moreover, when we have fully learned a lesson from some disastrous experience, we should let the distressing details of it fall out of our consciousness.

Very few of our unpleasant memories have any real educational value. Most of them deal merely with more or less unsatisfactory incidents, whose recollection is of no use to us whatever. We should forget the displeasing qualities of our friends and acquaintances; all petty slights and offenses; all unkind words (unless they actually cause us to amend unsatisfactory types of conduct); all grievances; all minor mistakes, which teach us nothing. Thus we will have room for remembering all the sweet and necessary things.

Except in connection with our vocations and serious avocations (and to some extent, even in those), we should forget unnecessary details and remember only principles, from which the requisite details can be deduced as occasion requires.

Let us, by all means, train and cultivate our memories by all practicable methods; but while tilling the fields of thought to produce a valuable crop of ideas, let us ruthlessly use the grub-hoe of forgetfulness upon the noxious weeds which all-too-readily grow therein.

Amusements help us to forget unpleasant memories and tragic circumstances; but it takes religion and faith to conquer and surmount them.—DR. CHARLES WOOD FASSETT.

### Advances in Surgical Technic

THE ancients knew a great deal about surgical technic of a rough sort, considering the conditions under which they had to work, and some of the instruments that we use today have not been radically modified, in form and purpose, from those employed several thousand years ago; they have merely been refined.

Of course, until the discovery of bacteria and the practical application of this discovery, first as antisepsis and then as asepsis, surgery was only a desperate last resort; and until anesthesia came into use most of the operations which are now performed daily were unthinkable.

But after the establishment of the great basic principles of asepsis and anesthesia, most of the advances in surgical technic have depended upon the invention, perfection and extensive production of instruments and apparatus for doing new things or for doing old things in a new and better way.

When the inventor of a new instrument had to toggle it up himself, with such primitive tools as he had available, it is quite obvious that refinements of technic could not go forward very rapidly; but few surgeons stop to think about the debt they owe to the men who, during the past century, have devoted their lives to the development,

elaboration and wide distribution of the mechanical means for bringing surgery to the high plane it has now reached—the professional instrument manufacturers.

Not only have these men given us tools of a lightness, strength, mechanical perfection and finish undreamed of in the time of our grandfathers, but, by placing their elaborate facilities at the disposal of men with revolutionary and helpful ideas, they have made it possible to work out these ideas to the point where they became practically available for all, at a cost which makes their universal employment a possibility.

Think, for a moment, of the complex and delicate instruments used in cystoscopy, bronchoscopy, ophthalmoscopy and such like procedures; of the operating knives with interchangeable, razor-like blades; of the remarkable mechanisms employed in electro-surgery; and of hundreds of other things which have permitted surprising improvements in our older technics, as well as the development of wholly new ones, and give a kindly thought, at times, to the men who have made these things possible.

Of course, these instrument manufacturers make their living in this way, but so does every other man who renders a service or produces any of the multitude of durable or perishable articles which make our lives more comfortable, enjoyable and civilized than were those of our more or less remote progenitors.

The physician and the surgeon make their living by ministering to the needs of the sick and suffering, but, even after these people have paid their bills, a certain amount of appreciation and gratitude on the part of those served is very stimulating and helpful. Would it not be a proper and pleasant idea to offer the same encouraging thoughts and words to those who have assisted us in making our ministrations more valuable and satisfactory to those whom we serve?

### AUTUMN PRAYER

*The fires of Earth's great swirling heart  
Erupt into a flaming tree.  
O, torch of the eternal Might,  
Give ardor to my soul and light  
The earth-fires in the heart of me.*

G. B. L.

# LEADING ARTICLES

## Dextrose Phleboclysis\*

By W. Forest Dutton, M.D., and Ernest E. Reeves, M.D., Amarillo, Texas

**D**EXTROSE phleboclysis came into use and received especial approbation in the treatment of disease during the World War. However, the injudicious application of the method did much to discredit its therapeutic value. Faulty technic, either in the preparation of the dextrose solution or the method of its administration, frequently caused serious reactions. An evaluation of the life-saving results in many outstanding conditions stimulated further investigations. The epoch-making research of Titus and Dodds (1927) has shown that, with good technic and a reliable preparation, where and when indicated, the prevention of all reactions is practicable.

Dextrose—chemically pure, U. S. P.,  $C_6H_{12}O_6 \cdot H_2O = 198.14$ —is a white, odorless, crystalline powder or granules; sweet to the taste; soluble in 1 part water; more soluble in boiling water.

**Action:** Nutrient; tonic; stimulant.

**Uses:** In circulatory weakness due to nutritional disturbances of the cardiac muscle; shock, collapse, heart failure; sepsis; diabetic coma; insulin shock; thyroid crisis; hepatic insufficiency; hyperemesis gravidarum; eclampsia; toxemia of pregnancy; starvation; hypohydration; hypochloridation; ketosis, etc.; as a prophylactic against complications from narcosis; and as a prophylactic for operative shock.

Dextrose phleboclysis was introduced by Matas to combat prolonged peritonitis and profound surgical sepsis. In this manner he was enabled to administer a great bulk of fluids over a long period. His success with the use of this method encouraged others to amplify the procedure by improved technic, apparatus, and additional life-saving drugs.

### Apparatus and Technic

We have used the Good Samaritan Infusion Jar Radiator (Fig. 1) and found it a simple method of keeping solutions warm. It serves a four-fold purpose: (1) It maintains heated solutions at correct and uniform temperatures; (2) eliminates the necessity of using hotwater bottles, bath towels, etc.; (3) reduces the number of attendants to a minimum; and (4) provides a holder for the infusion jar which is convenient and reduces breakage.

\*On etymologic grounds, the expression, "continuous intravenous drip," is preferable to phleboclysis.—W. F. D.

Equipment, in addition to the radiator and Kelly infusion jar, consists of a chemical thermometer for testing water temperatures, necessary tubing, connections, shutoffs and infusion needles, with a tubing hub for hypodermoclysis. The flow can be regulated by the size of the needle, by a screw clamp, or by the height of the reservoir.

A very important and troublesome step in phleboclysis is the insertion of the needle. A detailed technic for safe insertion of the needle, or Lindemann cannula, follows:

Release all constricting clothing. Thoroughly cleanse the site of injection, preferably over the median cephalic vein, with iodine, alcohol or ether. Place a tourniquet around the arm and, after the veins distend, inject two or three drops of one-percent Nupercaine solution into the skin at the site of the puncture. A 20-gage, rustless steel needle, 3.7 cm. (1½ inch) long is the one generally used. The bevel should be medium and sharp, otherwise it tears instead of cutting the vein wall.

Steady the vein to be punctured with the index and middle fingers of the left hand, to prevent its moving laterally. The needle is held in an oblique position in the right hand and pushed through the skin and middle of vein, the needle passing through the anterior wall of the vein.

Puncture of the skin may be facilitated by making a small incision with a bistoury. It is essential to pass the needle directly through the middle of the vein, in order that it may pass into the lumen without injury to or perforation of the posterior wall. If a Lindemann cannula is used, the needle, after passing into the lumen, is slowly withdrawn and the cannula pushed to a sufficient distance within the vein. When the blood begins to flow freely from the needle or cannula, connect the syringe, or the adapter of the tubing of the gravity apparatus, from which all air has been expelled by the fluid. Fasten the needle or cannula in place with strips of adhesive plaster. All apparatus should be properly sterilized before use.

When administering five-percent dextrose in Ringer's solution, we use a 22-gage, rustless steel needle 3.7 cm. (1½ inch) long for infusions which are not continued over four hours; a 20-gage needle if the treatment is to be continued for 12 hours; an 18-gage

cannula for solutions over ten percent and continued more than 12 hours. If a cannula is used, the flow can be regulated by the screw clamp.

Solutions placed in the infusion jar at 115° Fahrenheit will maintain this temperature, with a loss of not to exceed 5 degrees an hour, if the water in the radiator is at 180 degrees when placed in the radiator. There is, approximately, a loss of temperature between the infusion jar and needle of 8 degrees. This depends, however, on the rate of flow.

The apparatus is so arranged that a constant temperature can be maintained in the radiator and jar; and we have found this satisfactory for use in the home, as well as in the hospital.

There appears to be some controversy as to the practicability of intravenous dextrose administration. It is not necessary to depend on hospital facilities. With the present available apparatus, properly used, one may administer 1,000 cc. or more of a 5- to 10-percent solution of dextrose. Solutions of high concentration may be given by the hand syringe any where, provided ordinary aseptic precautions are taken. Thrombosed veins are due to bad technic, unless the solution is beyond a reasonable strength of 50 percent. The average dose of dextrose is about 1 Gm. per kilo of body weight. A less amount is not sufficient to meet the requirements, and this accounts for some disappointments in treatment.

#### Speed Shock

Hyman and Hirshfield reiterate the warning frequently given relative to sequelae following the rapid intravenous introduction of fluids. This syndrome, which they term "speed shock," includes respiratory and circulatory symptoms, with alterations of the blood. The tolerance on the part of the organism to large intravenous doses of many substances and great quantities of fluids, provided the rate of flow is not more than 2 cc. per minute (intravenous drip) for amounts over 150 cc., and 2 to 5 cc. a minute for smaller amounts, has been firmly established, except in surgical shock hemorrhage, when large amounts are administered in a few minutes to bring the blood pressure up to a normal level.

Dextrose should not be infused at a rate beyond blood tolerance. A rate sufficient to

maintain a blood-sugar level of 130 mg. per 100 cc. surcharges the tissues to a point near the glycosuric threshold. To exceed the maximum tolerated rate, provokes glycuresis. In a case of pernicious vomiting of pregnancy, a 25-percent solution of dextrose, in doses sufficient to supply the required nourishment and prevent dehydration, serves its purpose. In like manner, a 50-percent solution, in a different amount and at a different rate of speed, reduces increased intracranial tension. However, the maximal effect, in a case of hemorrhage or shock, may be secured from an infusion of a 5-percent solution at a higher temperature, at higher speed and in larger quantities.

Cutting has presented some illuminating facts concerning dextrose phleboclysis. He has discussed the ultimate fate of injected dextrose, and declares, "There is no evidence, either direct or indirect, to indicate that the body treats injected dextrose any differently from ingested dextrose." Attention is directed to the beneficial and deleterious effects of too highly concentrated form of dextrose injections.

#### Toxic Substances

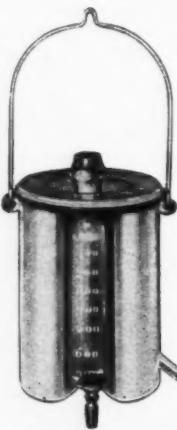
Too much stress cannot be placed upon the preparation of the apparatus. Toxic substances are frequently traced to the rubber tubing, which should be thoroughly cleansed in pyrogen-free water. "Speed shock" should be avoided. An infusion solution composed of pure dextrose and pyrogen-free water, administered intravenously by properly prepared apparatus, at a proper rate and of

indicated percentage should not cause any reaction. There should not be any undue deviation of the hydrogen-ion concentration from that of the blood. The temperature of the infusion should be 105° F., and not, at any time, vary more than 5 degrees F.

The pyrogenic factor is associated with postinfusion reactions, and a pyrogen-free water may be said to eliminate the occurrence of such reactions.

#### Circulatory Insufficiency

Acute circulatory insufficiency, with small, frequent pulse, low blood pressure and pallor, but without cyanosis, sometimes appears in the course of infectious diseases, during surgical operations with hemorrhage or narcosis, and in toxemic conditions after operations. There is increased frequency of breathing and the feet are cold and clammy. It would appear that this clinical picture is due



Courtesy of Will Ross, In.  
Fig. 1.—Good Samaritan Infusion Radiator.

to vasomotor paralysis, with a tendency to accumulation of blood in the abdominal cavity. Prompt dextrose (or dextrose-saline) phleboclysis, as an adjunct to strophanthine, epinephrin, Metrazol or Cardiazol, will usually stabilize the circulation.

*Chronic circulatory insufficiency*, due to weakness of the heart muscle, is often relieved by maintenance of the glycogenic equilibrium of the blood.

#### Ketosis and Sepsis

The successful treatment of many diseases depends upon the maintenance of a certain hydrogen-ion concentration of the blood. It is imperative that, next to water and sodium chloride, a certain concentration of sodium bicarbonate in the blood be preserved. Acidosis (ketosis) is a common pathologic state and should be always watched for and prevented in all cases of serious illness. In fever, diabetes or hyperthyroidism, sodium bicarbonate, given in doses sufficient to make the urine amphoteric, ought to take care of an adequate supply of water.

In diabetes or starvation, excessively large quantities of sodium bicarbonate would be required to secure the desired result. However, its administration by mouth, in patients suffering from hypochlorhydria, would materially affect digestive processes. For this reason, one must proceed to relieve the cause of acidosis by supplying dextrose or insulin or a combination of both. One should not wait for acidosis to develop, but should provide the organism with enough carbohydrate to prevent ketosis. Once acidosis has established itself, a vicious circle is created. The specific remedy for this condition is dextrose. A 10-percent solution, given by phleboclysis at the rate of 250 cc. per hour, will introduce into the patient 3,000 calories in the course of 24 hours. This will supply sufficient nutrition and prevent starvation ketosis. However, the percentage, rate and amount may be varied to suit the condition.

In *sepsis*, dextrose phleboclysis may be used as a supportive measure and as a vehicle for serums. This may serve a four-fold purpose: It permits (1) the continuous introduction (2) of large amounts of serum, over a period sufficient (3) to obviate danger of anaphylactic shock; and (4) offers a simplified technic with safety.

#### Exsanguination

*Exsanguination*, following profuse hemorrhage, should be relieved by the immediate intravenous administration of dextrose-saline solution. The solution should contain 5 to 10 percent dextrose in Ringer's solution and be given by the drip method, in such quantities and at such a rate as are consistent with the condition. Citrated blood should be obtained as soon as possible and administered by the same drip apparatus. Then the dextrose-

saline solution should be reverted to and the drip continued until the condition of the patient warrants its discontinuance. Ringer's solution should be omitted in nephritis.

#### Surgical Shock

Surgical shock can frequently be prevented by dextrose phleboclysis, previous to or during an operation. The apparatus and solution should always be available for immediate use. The percentage, the quantity and the rate of administration of the solution should be governed by the conditions to be met. If shock is present and the blood pressure is low, or if there is marked hemorrhage, the solution should be infused rapidly—sometimes as much as 500 cc. in 5 to 10 minutes—until the blood pressure rises to within 10 points of the approximate normal for that patient.

In such cases there is little or no danger of overstraining the heart, for the heart functions poorly because of need for fluid in the vascular system. When the blood pressure is within 10 points of normal, the solution should be given slowly; i.e., at such a rate as to avoid overexertion of the heart. It is particularly valuable in preventing the blood pressure from falling too much in spinal anesthesia. The solution should be used cautiously in elderly patients.

#### Postoperative Sequelae

Dextrose phleboclysis is an invaluable aid in preventing the unpleasant postoperative conditions that arise in patients subjected to extensive or shocking surgical procedures. It is an effective therapeutic measure once these untoward events have been established.

As a prophylactic measure against *thyroid crisis* in exophthalmic goiter, the intravenous drip, before, during and after operation, has materially reduced the operative risk. For this reason, it should be a routine measure in the treatment of *thyrotoxicosis*. In the treatment of *postoperative distension*, particularly of acute dilation of the stomach and *threatened ileus*, dextrose phleboclysis has proved of much value, especially when continuous gastric drainage is used as an adjunct. Postoperative oliguria or anuria is often prevented and, if established, relieved when dextrose-saline solutions are given to produce diuresis.

#### Peritonitis

Peritonitis is a disease that frequently thwarts the best efforts of the physician. A great deal may be accomplished by securing intraabdominal rest, with morphine, and rehydration, with intravenous infusions of dextrose and Ringer's solution. Fluids should be pushed in every way. Vomiting often interferes with taking fluids by mouth, and the rectum is not always a satisfactory route for administering dextrose. Dextrose phleboclysis, by the continuous method, provides a

valuable remedial agent. Dextrose and chlorides may be given over a period of days and often affords the only way to secure rehydration and restore the chloride balance.

#### Toxemias and Metabolic Abnormalities

Dextrose phleboclysis has proved invaluable in the treatment of diabetic coma, uremia, cholemia and the intestinal intoxications of infancy and childhood. It is particularly useful when the enteral routes of administration are not available and restorative materials are essential to life. In alimentary intoxication (summer diarrhea) of infants, when other methods have failed, continuous phleboclysis has proved a life-saving measure. The usual procedure consists in administering 100 to 250 cc. of 5-percent dextrose, in Ringer's or isotonic saline solution, at an average rate of 1 to 1.5 cc. per minute. If indicated, 0.5 cc. of 1 to 1,000 epinephrin solution should be added to each 250 cc. A transfusion of 100 cc. of citrated blood may be given through the same apparatus before or shortly after dextrose phleboclysis, if necessary.

The clysis may be continued until the enteral routes are considered safe for the administration of food. Should the symptoms recur, phleboclysis may be resumed. Care should be exercised to avoid abdominal distension and signs of super-saturation, evidenced by increased lacrimation, edema of the eyelids or hypostatic pneumonia. The site of the injection must be protected, to prevent lymphangitis. This is best accomplished by keeping the field sterile and the wound covered with an alcohol sponge.

#### Hypohydration

In hypohydration with hypochloridation, vomiting of pregnancy, starvation enteritis and toxemias in adults, a 5-percent solution of dextrose in Ringer's solution is best administered, over a period of hours or days, at a rate of flow of 100 to 200 cc. per hour. The use of hypertonic dextrose solutions is said to be advisable only during the earlier stages of dehydration, when oliguria or anuria is present. If there should be merely hypohydration, the saline solution should be omitted.

#### Diseases of the Liver

A certain amount of glycogen in the liver is essential for the proper functioning of this organ. Deficient glycogenesis causes internal carbohydrate starvation. This results in a reduction of hepatic glycogen, largely through depletion of that part of it which serves as a reserve form of carbohydrate. For this reason, in patients with diseases of the liver, it is possible, by giving suitable amounts of dextrose, to make up the shortage of carbohydrate and, incidentally, increase glycogen storage.

Althausen considers the administration of dextrose indicated where it is desired: (1) to reduce the working load of the liver; (2)

to correct metabolic derangements due to hepatic insufficiency; (3) to aid detoxication, especially if toxins are of unknown origin and cannot otherwise be eliminated; (4) to favor rapid regeneration of the hepatic parenchyma; and (5) to shorten prolonged coagulation time in jaundice. Hence, dextrose therapy is indicated in all cases of primary and secondary hepatic disease.

#### Dextrose Osmotherapy

Dextrose Osmotherapy is particularly of value in reducing intraspinal pressure in *status epilepticus*, in which the spinal fluid pressure is actually increased, as it is in nearly all such cases. The procedure is as follows:

Venesection is performed immediately, removing 300 cc. of blood; then lumbar drainage, removing at least 60 to 80 cc. As a rule, the attacks are diminished or cease. Finally, 50 cc. of a 40- to 50-percent dextrose solution is given intravenously. This not only reduces intraspinal tension, but also is detoxicating and diuretic.

The use of solutions for the purpose of forcing spinal drainage must be watched carefully, because of the danger of cerebral edema, leading to medullary compression. One must be ready to face the symptoms of herniation, to reverse the process and to give hypertonic dehydrating therapy.

Immediate dehydration therapy and, at times, ventricular drainage, are indicated in order to prevent fatal medullary paralysis. *Intravenous administration of hypertonic dextrose solution is life-saving in this condition.* From 50 to 150 cc. of intravenous dextrose infusions seem to have saved life in apparently moribund cases.

#### Poisoning

Before using dextrose phleboclysis in the treatment of poisoning, it is imperative to distinguish between diffusible and non-diffusible bodies. In certain conditions, infusions are unquestionably harmful to the patients. The toxins of diphtheria, pneumonia, tetanus and other infectious diseases are more or less colloidal, non-diffusible substances. These conditions are not amenable to phleboclysis. In the case of diffusible poisons, such as phosphorus, chloroform and cinchophen, dextrose is a salutary agent.

Dextrose phleboclysis is a valuable adjunct in the treatment of mercuric chloride poisoning; but sodium chloride solution should not be used unless there is evidence of hypochloridation. An isotonic (5-percent) dextrose solution is indicated when unabsorbed poison still exists at the point of its absorption; a hypertonic (25-percent) solution is indicated when it is desired to draw deposited poison back into the circulation, more especially in heart weakness or pulmonary edema. The daily infusion of fluid should not exceed 1,000

ce. (the output of urine), unless there is profuse sweating, vomiting, diarrhea or exudation, or unless the system has lost much fluid; then such losses should be estimated and compensated for by an increased quantity of fluid infused.

#### Phleboclysis as a Medium for Administration of Medicaments

Phleboclysis presents an ideal method of administering remedies. This is especially emphasized when it is given in a slow and continuous manner. Atropine, adrenalin, morphine, caffeine, digitalis, Cardiazol, Metrazol, Coramine, etc.; antiserums in large doses; insulin; arsphenamine, mercury and iodides, etc., may be infused more easily, safely, and accurately. Drip phleboclysis permits the administration of many medicaments without developing toxic or irritant effects to a harmful degree. It assures a maximum effect with a minimum damage to the organism; affords scientific remedial management of the sick; and, as such, is a life-saving method.

#### Comments

The senior author (W. F. D.) of this article began the intravenous use of medicaments in the treatment of disease in 1900. This was preceded by five years of intensive research work on the therapeutic and physiologic effect of agents introduced intravenously. Engaged in the practice of Industrial Medicine and Surgery from 1903 to 1913, he had a splendid opportunity to test the value of his early experiments.

The practical application of intravenous therapy had proved to be invaluable. Papers were written and forwarded to publishers, setting forth the excellent results from this therapeutic method. They were, with few exceptions, returned to the author as unsuitable. Hundreds of pages were written and revised from year to year, until the manuscript was

accepted for publication, in 1923. "Intravenous Therapy" was published in 1924, and the second edition in 1925, by F. A. Davis Company, Philadelphia. This text was the first to systematize and place intravenous therapy upon a scientific basis.

Intravenous therapy, where indicated and properly administered, is a practical, utilitarian and scientific method. Physicians are conservative (and properly so) in the treatment of the sick. When a method for giving medicaments for the relief and cure of disease has proved beyond a reasonable doubt to be efficacious, and is not used, there arises the question of responsibility and accountability of the profession. It would be a sad commentary on the medical profession if statistics were available showing the deaths due to neglect of using intravenous therapy during the past ten years.

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#### THE REAL BIOGRAPHY

I will construct a text: What a wee little part of a person's life are his acts and his words! His real life is led in his head, and is known to none but himself. All day long, and every day, the mill of his brain is grinding, and his thoughts, not those other things, are his history. His acts and his words are merely the visible thin crust of his world, with its scattered snow summits and its vacant wastes of water—and they are so trifling a part of his bulk! a mere skin enveloping it. The mass of him is hidden—it and its volcanic fires that toss and boil and never rest, night nor day. These are his life, and they are not written, and cannot be written. Every day would make a whole book of eighty thousand words—three hundred and sixty-five books a year. Biographies are but the clothes and buttons of the man—the biography of the man himself cannot be written.—"MARK TWAIN."

# The Action and Uses of Certain Nonspecific Proteins

By Edward Huntington Williams, M.D.,\* Los Angeles, Calif.

**D**URING the past two years, nonspecific proteins have made a definite bid for recognition as useful therapeutic agents. It is really a recurrent gesture, as these same nonspecific, or "foreign," proteins made a similar bid for recognition about a decade and a half ago. Apparently this first attack was premature, partly, at least, because of the general medical attitude of that period. The time was not ripe. Medical men were not then in a receptive mental attitude as regards what nonspecific proteins had to offer. At the present time there is reawakening of interest in this subject.

Perhaps the special feature that has renewed the interest in nonspecific protein therapy is the improvement in the methods of preparing these proteins. In the early days of experimentation, all foreign proteins caused a febrile reaction, the initial leukopenia being followed by leukocytosis. This initial action—rise of temperature, increased permeability of the capillaries, with leukopenia etc.—was a necessary result with the then-available preparations. It was not beneficial, to say the least, and was most distressing to the patient. In the newer products, however, this initial action is not produced, yet there are even more beneficial effects.

Since the same foreign protein produced these two different effects when prepared in one manner, but does not do so when prepared in another, it seems probable that the febrile reaction is "due to one group of foreign proteins; the leukocytosis due to another," both present in the same nonspecific protein product. This dual action itself suggests, what will be referred to in a moment, that a nonspecific protein reaction is really a complex reaction, not confined to generalized effects common to all socalled foreign proteins.

## What is Meant by Nonspecific Protein

The phrase "nonspecific protein" calls for a word of elucidation. It was natural enough to speak of "nonspecific protein therapy" in the day when specific bacterial cultures were used to produce protein reactions supposed not to be associated with the particular type of bacterium utilized. But it was inevitable that confusion should arise between the reactions produced by the bacterial agents, as such, and those due to the purely protein content of the preparation. Physicians who

stroved to make the distinction by administering non-toxic proteins (protein of milk, eggs, seeds of alfalfa and other vegetables) were not at once listened to. Of late, however, the total dissimilarity of action of bacterial proteins and these non-toxic proteins is more generally appreciated, and "nonspecific protein therapy" is coming to be recognized as a useful as well as a pleasant form of medication to administer, instead of a most disagreeable one.

Meantime, it is recognized that the term nonspecific is essentially a misnomer when applied to any protein. Every protein is the product of the life-action of some vegetable or animal, and no two species of plants or animals produce proteins of exactly the same type. In other words, every protein is a specific protein, and no two proteins can be expected to produce precisely the same therapeutic effect when administered "nonspecifically."

Practically, therefore, the various nonspecific protein preparations cannot be used interchangeably, with equally beneficial effects, in the treatment of various conditions. That is, no one protein will give optimal results in the treatment of all cases in which protein therapy may be indicated. The theoretical optimum might be expected of a protein not extracted from any food product (since to such proteins the system would be to some extent immunized), but, on the other hand, not derived from any vegetable or animal product too far afield from food proteins, since these might be unduly toxic (with snake venom as an extreme example).

## Physiologic Effects of Nonspecific Protein

For the past fifteen years, our group of physicians in the Los Angeles County General Hospital have been making clinical use of various nonspecific proteins, with laboratory observations, in the treatment of a variety of conditions. Our experience has led to a process of elimination and a final selection, as most suitable for general work, of a foreign protein made from alfalfa seeds or the plant itself. On theoretical grounds this protein should be peculiarly effective, since alfalfa is so entirely foreign to the human organism, never having been used as food in any form. And the laboratory findings and clinical effects seem to be more satisfactory in the class of cases treated than in the case of any other nonspecific protein observed.

The preparation that we have found partic-

\*In collaboration with Drs. Martin G. Carter, Edson Hun Steele, Chas. A. Allen, and Clifford A. Wright, staff members of the Los Angeles County General Hospital.

ularly satisfactory is a two-percent, sterilized solution of alfalfa, called **alfalfa proteal**. The term "proteal" designates "a vegetable protein for hypodermic use" (Stedman), to distinguish between animal and vegetable protein products. This alfalfa proteal is made by extracting the protein with dilute hydrochloric acid, neutralizing, sterilizing, and standardizing to the basis of three milligrams of nitrogen to the cubic centimeter. The partial hydrolyzation of the protein, to the stage of proteose or peptone, is believed to account for the observed freedom from "anaphylaxis"\*\* that attends the administration of alfalfa proteal, and to accentuate the efficiency of the preparation as a stimulant to the blood-forming mechanism. It also permits the use of unusually large doses without ill effects.

We have used this proteal in various doses and on a variety of clinical conditions, and in our observations of laboratory results and clinical effects have found a certain uniformity of action in patients taking it. Thus, our records show that a two-percent solution of alfalfa proteal, administered in 1 cc. doses hypodermically, from three to six times weekly, is followed by a favorable modification in the hemoglobin index and in the red-corpusele and leukocyte count—a tendency to normalization of the differential count of leukocytes in cases of disturbed metabolism, associated (as such usually are) with leukocytic maladjustment.

Thus, confirming a former observation, in a series of 20 cases in which the blood count, before treatment, showed fewer than four million red corpuscles (regardless of the nature of the primary maladies, which ranged from tuberculosis to hyperthyroidism), but which were all chronic cases of long standing, the blood picture, after an average period of 130 days' treatment, showed the following:

|                                       | Before treatment | After treatment |
|---------------------------------------|------------------|-----------------|
| Average hemoglobin .....              | 76.8%            | 89.8%           |
| Average number red corpuscles .....   | 3,718,454        | 4,791,207       |
| Average number white corpuscles ..... | 6,793            | 7,240           |

The average numerical increase of red corpuscles is thus seen to be 1,062,753; the percentage of increase, 28.4. Only one case failed to show marked increase in the corpuscle count.

Our interpretation of these cases, which represent simply a single group and which could be duplicated many times, is that this particular nonspecific protein tends definitely to normalize the blood condition, regardless of the pathologic antecedents of the secondary anemia.

In another group of 113 consecutive cases under treatment, it was found that the after-treatment average red-corpusele count, for the entire group of male patients, was 5,161.

\*\*It is questionable if this action is really an anaphylactic response, since eosinophilia is not present.

034; and for the entire group of female patients, 4,854,020. The average numerical increase, for all cases of both sexes, was 260,697.

#### Clinical Effects Observed

It was pointed out by Clark,<sup>1</sup> more than a decade ago, that beneficial effects from nonspecific therapy should be expected in: (1) acute general infections (such as typhoid); and (2) in chronic infections with local lesions, arthritis being an example. And, certainly, one would expect that distinctive clinical effects would be observed in cases in which such definite chemical and physiologic effects are produced. Also, one might reasonably expect that there would be several other clinical effects besides the direct one caused by the change in the blood picture, some of these in rather unexpected quarters.

For example, the treatment of **drug addiction**, the effects of which we have interpreted as a disturbance in the endocrine glandular system, and in which the adrenals are more profoundly involved primarily, with later involvement of the gonads and with involvement, of course, of the thyroid and pituitary. In the drug addict the withdrawal symptoms due to insufficient morphine are very uniform: Lowered red-cell count, leukopenia, lowered blood pressure, lowered basal metabolism, general muscular weakness, pain and gastrointestinal upsets. These symptoms are prevented and relieved in a marked degree by hypodermic injections of alfalfa proteal. Also, in a somewhat less degree, by thyroid-anterior pituitary-adrenal cortex therapy, which suggests that there is a similarity of action upon the hemopoietic function between these hormones and the nonspecific alfalfa protein.

This conception is still further sustained by the known action of these three endocrines upon the hemopoietic function. Thus, as shown by Hubble,<sup>2</sup> "The thyroid hormone stimulates the production of red cells and lymphocytes, and depresses the output of granulocytes; and adrenal cortical hormones stimulate the production of granulocytes and possibly the red cells; while the basophile cells of the anterior lobe of the pituitary stimulate all types of circulating cells, giving rise to a clinical picture of polycythemia"—practically the same effect as that produced by the alfalfa proteal. This offers some justification for the statement that the action, or at least one action, of the nonspecific alfalfa proteal is that of a general hormone—a "vegetable hormone."

But of course this action, just as in the particular action of the endocrine gland hormones enumerated, is not the entire action—in either case. One cannot use these sub-

1.—A. J. Clark, in the *British Medical Journal*, Feb. 24, 1923.

2.—Douglas Hubble, *Lancet*, July 15, 1933.

stances interchangeably and with equal effects for the treatment of certain pathologic conditions. And one will not obtain similar, nor as satisfactory, results in using the nonspecific proteins interchangeably. Thus, we did not find any foreign protein that would relieve the withdrawal symptoms of drug addiction in anything like the same degree as that from alfalfa, indicating that there is a specific action of every nonspecific protein, as well as the generally accepted one.

Another suggestion that this alfalfa proteal stimulates adrenal action, as it appears to do in drug withdrawal cases, is found in the effect produced in Addison's disease. Only two such cases in which the proteal was tried have come under our immediate observation; but in both of these the hemopoietic response was greater when the alfalfa proteal was added to the adrenal cortex injections than it was without it. Certainly the patient's general condition was improved. These cases are still under observation, but, of course, two cases can be, at best, only suggestive.

The list of pathologic conditions in which nonspecific proteins may be employed hopefully covers the widest possible range, if we are to accept the statements of the enthusiasts. Indeed, if these proteins do really tend to normalize the blood, there can be little logical restriction, for an abnormal blood picture is an element in almost every pathologic condition.

Without claiming any real panaceal qualities, however, and accepting as probable that the beneficial effect of any foreign protein is its action upon the hemopoietic mechanism of the body, there is little doubt that such a proteal as that of alfalfa offers helpful possibilities in such cases as secondary anemia, in some dermatoses that are influenced by blood conditions, in some cases of arthritis, and as an adjuvant in the treat-

ment of hypoendocrine conditions, where there is nervous and muscular exhaustion as well as secondary anemia. In such a condition as is seen so frequently in post-influenza states, this proteal has proved to be of very great value.

#### Summary and Bibliography

The improved blood picture that follows the use of alfalfa proteal is beyond doubt. That this hemopoietic effect is shared by certain endocrine glands, and that a combination of these two therapeutic agents may be useful is suggested in the following:

Clark, in the *British Medical Journal*, Feb. 24, 1923, suggested the usefulness of nonspecific therapy in acute general infections and in certain chronic infections; Hubble, in the *Lancet*, July 15, 1933 (as referred to), suggests the hemopoietic action of the thyroid, adrenal cortex and basophile cells of the anterior pituitary; Scherman, in *Folia Haemat.*, 1930, observed that blood regeneration was retarded in thyroidectomized animals; Kunde and his associates (*Am. Jour. Physiol.*, 1932) found anemia following thyroidectomy; Lerman and Means (*Jour. Clinical Investigation*, 1932) found secondary anemia (red count below 4,000,000) in 52 cases of myxedema; Hoskins and others, in *Endokrinologie*, 1929, reported an increase in red cells from 4,635,000 to 5,150,000 in schizophrenic patients given thyroid over a considerable period; and Hoskins, in *Endocrinology*, 1932, reported very similar results in another group of schizophrenics; Huth (*Wien. klin. Wchnschr.*, 1929) gave adrenal cortex by mouth for less than two weeks and increased the erythrocytes from an average of 4,870,000 to 5,690,000. Practically identical results were obtained by Hoskins and Freeman (*Endocrinology*, 1933). Harvey Cushing (*Bull. Johns Hopkins Hosp.*, 1932) shows that hyperplasias of the anterior pituitary lobe are frequently accompanied by erythremia.

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#### BUREAUCRACY

Bureaucracy is a giant power wielded by pygmies. It has a natural tendency for mediocrity, a predilection for statements and reports, and is as meddlesome as a small shopkeeper's wife. It has shirked every question, protracted delays and perpetuated abuses, the better to protect and perpetuate its own existence.—BALZAC.

#### CENTRALIZATION OF GOVERNMENT

The whole theory of centralization of government is contrary to the spirit of the Constitution and is a natural weakening process. Every step to this end, and it matters not how insignificant it may seem when first proposed, is a step to cripple and, in the end, destroy us.—COMMITTEE ON AMERICAN EDUCATION.

# Epileptic Seizures Due to Protein Sensitization\*

## (A Case Report)

By Samuel M. Pearl, M.D., Boston, Mass.

EVEN in the earliest recorded medical writings, epilepsy has been recognized as a disease entity. While its types and manifestations have been accurately described, its specific etiology is still in obscurity.

### History of Case

J. W., male, white, 20 years of age. In May, 1932, the patient was in an automobile accident. He was knocked unconscious when the car in which he was riding was thrown against a telegraph pole. When he "came to," thirty minutes later, he found that he was in a private hospital, four miles from the scene of the accident, and that the doctors were sewing up a cut in the back of his head. While in the hospital the patient was very much confused. Roentgenograms of the skull were taken and were found to be negative.

One week after he left the hospital, the patient had his first "fit" while sitting on a piano stool. He did not know when it came nor how he acted. He merely fell unconscious for a few minutes. He was continually troubled with occipital and supraorbital headaches. He did not know how many of these attacks he had had, as he found it extremely difficult to remember details or people.

The symptoms the patient noticed were: Emotional instability; loss of memory; difficulty in recognizing people; inability to taste food; and once, when he felt as if he were going to have an attack, he noticed, in a mirror, that his pupils were widely dilated.

After this accident, there was a distinct personality change. The patient was irritable, eccentric, introspective and moody. He had several seizures, with unconsciousness and aura.

### Previous History

Nothing of importance was noted except an automobile accident a few years ago. The patient was confined to a private hospital for a few days, had minor injuries and made an uneventful recovery.

**Family History:** Father well; mother has been suffering from migraine for several years; brother and two sisters, living and well.

The patient's chief complaints were occipital and supraorbital headaches and "fits." He was examined by a neurologist, who pro-

nounced him an epileptic and advised him to enter the nerve department of the Boston City Hospital for observation.

He was admitted to the hospital on October 4, 1932, had general hospital care and was discharged, unimproved, on October 15, 1932, with a diagnosis of: *Question of epilepsy, post-traumatic.*

Bearing in mind the fact that the mother of the patient had been suffering from migraine, I suggested that the patient be tested for sensitivity to various proteins. Therefore, after a discussion with the nerve service, the patient was referred to the department of immunology.

He was tested by me on October 25, 1932, for food and animal proteins. He was markedly sensitive to horse dander, chicken feathers, duck feathers and barley; sensitive to goose feathers, rabbit hair, cattle hair, crab and wheat; slightly sensitive to oats and casein.

The patient was re-tested one week later, with the same results. He was advised to avoid the above excipients. He has not had a seizure since and is perfectly well in every respect. On one occasion he ate crab meat. This caused a severe headache and dizziness, but no convulsions.

### Comment

As has been stated by many investigators, a constitution favoring hypersensitivity may be hereditary, a positive family history being obtained in from 30 to 50 percent of these cases. It is, therefore, reasonable to suppose that this patient is a victim of allergic reactions—the reactions being dependent upon some inherited nervous-system defect. When these protein poisons enter the system, they seek those areas least able to resist their action—in this case, the nerve centers. Apparently the injury which the patient sustained caused the brain tissue to become a shock organ. This caused the tonic and clonic spasms.

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\*From the Department of Immunology, Boston City Hospital.

# Medical and Surgical Convalescence in Relation to Art and Music

By Edward J. Humphreys, M.D., Thiells, N. Y.  
Director of Research, Letchworth Village, Rockland Co.

THROUGH the courtesy of the Fifth Avenue Hospital and the Master Institute of the Roerich Museum, an interesting study in the effect of "mural atmosphere" on medical and surgical patients was accomplished. The aim was primarily directed toward a *Gestalt* survey rather than a reductive analysis. On the basis of figure and background, the following aspects were examined:

1. Patient and room.
2. Staff, visitors and room (staff including surgeons, physicians, nurses and attendants; visitors including relatives and friends).
3. Staff and another room.

The paintings, from the art department of the Roerich Museum School, were chosen on the basis of: (1) Modern design and color; (2) more conventional types. The media consisted of tempera, oils, water colors and black and whites. The mode of distribution was essentially "peddling." Groups of the paintings were taken to the bedside, the patient being asked if he would care to decorate his walls and, if so, to choose one, two or three paintings, according to his liking. He would also supervise the hanging of them—whether or not in proper light or arrangement. Four large murals in tempera were placed in different rooms, as were several smaller paintings in other rooms, and left there without regard to the patient.

The patients consisted of the laboring and lower business classes, although several were from higher social classes, but compelled to take lower-priced rooms because of financial circumstances. Practically, each patient had an individual room, as the Fifth Avenue Hospital does not have adult medical or surgical wards. The rooms were light, airy and of moderate size.

The experiment was carried on for a period of over four months and directly involved approximately thirty individuals, who represented various degrees of culture and intellectuality. Naturally, this number does not make the results absolutely conclusive, but they will be valuable compared with other studies. The deeper analysis of the individual types of response are most interesting, but beyond the scope of the report. The results are as follows:

## A.—The Patient and Room.

1. When allowed to choose for themselves, convalescing patients generally manifested considerable interest, varying from amusement to a deep personal interest. A very few were indifferent.

2. The most unexpected choices were made at times; for example, a highly modernistic symbolization when a conventional type was expected of the patient, or a dull painting instead of bright colors, etc.

3. Every patient manifested a changed emotional attitude after the hanging of the paintings. The reactions were sustained for varying periods, even during the entire hospitalization.

In the cases where the patients were allowed to make their own choices, the paintings produced a pleasing result, practically everyone declaring that he preferred the painting to the undecorated wall. Quite frequently the patients declared that the time passed more easily in contemplation of "that particularly lovely blue" or "the beautiful rocks" or "a funny little bird," or "it's a puzzle and I like to lie here trying to figure it out." But it was readily manifested that what one patient preferred, another did not, as in the case of two patients in one room or new patients in rooms having paintings selected by previous occupants.

The greatest storm naturally arose in the rooms wherein paintings were hung without consulting the tastes of the patient. One patient, coming out of ether, thought she was in heaven, seeing the dancing figures—angels—against a blue background. She demanded that her bed be turned around. Later on this patient modified her feeling when the symbolisms were explained to her, but she never "warmed up" to the painting. Several other patients did not like this particular mural, but one man complained most emphatically against its removal, as he had come "to like the blue and the dancing figures." Another patient hated the room because she hated the painting, but it was found later that she really hated being moved from another room and used the painting as a means of removing herself back again. One elderly lady of cultured tastes and better days didn't wish any paintings on the wall, because she preferred to sink herself into the neutrality of the walls themselves.

## B.—Visitors and Room.

Surrounding the patient, in the general background, other figures from time to time appeared—the surgeons, physicians, nurses, attendants, friends and relatives. These in turn modify the total atmosphere of the room. Their preferences may stimulate or modify the personal reactions of the patient. Explanations:

tions of symbolisms have repeatedly changed a patient's attitude. Conversations of nurses and friends were observed to contribute definitely.

#### C.—*Staff and another Room.*

Murals were placed in rooms used for staff service. The same general types of tendencies were observed, thus emphasizing related and reciprocal behavior. In fact, everything was observed, from expressions of great admiration to titles of "Spinach!"

#### Comments

In the matter of atmosphere, hospitals and convalescent homes have been growing through three periods: (1) The whitewash period, when iron beds were covered with white paint (constantly flecking off) and set against dazzling or graying walls—a most unnatural setting. People forget that a patient is a sick person trying to get well and that a bizarre environment is not conducive to composure; (2) neutrality period—walls of "neutrality"—grays, blues, creams—relatively neutral tints. This is essentially the period holding sway at the present, as exemplified in all our modern hospitals; (3) dynamic atmosphere—the third period, into which we are emerging—wherein the influence of figure and background are more clearly recognized and in which culture itself, including painting and music, tends to blend with scientific skill in the rehabilitation of the whole individual, mind and body, as a patient with a broken leg should be not merely a broken leg case but, as Draper says, a "psysome"—mind-body with a problem of recovery.

Pleasing surroundings certainly do not impede the work of the surgeon or physician. But, we must be careful not to develop a cult of mural decoration! It must remain eternally individual. The decorations for children's services can well be fully formulated to include children at play, the circus, fairies, Mickey Mouse and the like, all done in bright, cheery colors. Mural atmosphere in children's services has already entered the third stage of hospital atmosphere. But in dealing with the adult we have other factors primarily centering in the higher differentiation of personality. Every patient in a hospital brings his own individual culture with him. We do not care, therefore, to force an irritating or offensive atmosphere upon him, any more than we should annoy him by indifference to his total personality in neglecting the mental response to illness. To most people it is not the most pleasant experience to be hospitalized.

In addition to the color, form and object relationship in the room, music can also play a most important rôle. Not everyone appreciates painting or music, but human beings tend to respond to rhythm, whether of color or sound, insofar as it invokes pleasing

effects. Studies of the effect of music on patients have left no doubt as to its possibilities as a healer. Concerts, studied at the Fifth Avenue Hospital and other hospitals, have again attested to the importance of music in healing. One patient had not slept well for three months. Following a concert he slept soundly and felt elated the next morning. The improvement persisted. This experience was repeated with several other patients. Many literally begged for more frequent concerts.

The effect on various members of the staff was likewise noteworthy, as the very fact of having music in the hospital seemed to take both patients and nurses nearer to "the well world." But further careful studies must be made as to the administration of art and music as adjuncts to the skill of the physician and surgeon. The science of medicine and the science of art possess primordial entities in common and both demand the greatest skill in performance.

In concluding, these studies show that neutral tints on walls form the best background and that patients invariably respond in different degrees, positively or negatively, to figures (Gestaltian sense) on the walls. It is suggested that hospitals have travelling art galleries, as well as travelling libraries, and that patients should have something to say as to how the walls of their rooms should be decorated, whether for overnight or for months, even changing the paintings from time to time. The cost of such a travelling art gallery would be small, compared with the added stimulus to living it would impart to many patients. Magazine covers, pictorial supplements and paintings by art students could be pressed into service at minimal cost.

In association with the paintings, and in addition to the radio, frequent concerts, with carefully selected programs, should be given. The musical aspect is not elaborated in this paper because of our immediate concern in the effect of painting. However, each should always supplement the other.

#### Summary

1. Patients almost invariably react, positively or negatively, to paintings hung in their rooms. Relatively few are indifferent.

2. The intensity of the reactions attests the importance of "mural atmosphere" or "tone."

3. The favorable response warrants further investigation into art as a form of therapy, coordinating with the convalescent work of the physician and surgeon.

4. A travelling art gallery should be in every hospital, as well as a travelling library. Patients themselves should choose paintings and direct how paintings should be hung.

5. Neutral tints on walls form the best background for anyone wishing to maintain a more or less introverted feeling-tone, or for

any arrangement of color and pattern desired.

6. The influence of mural "tone" or "atmosphere" on the doctor, nurse, attendant or friend also occurs and may reflect back to the patient.

7. Music is equally important in con-

valescence and should be utilized side by side with "mural tone."

The cooperation of Mrs. Sina Lichtman, of the Roerich Museum, and Dr. Wiley E. Woodbury, Dr. Frederick W. Bancroft and Dr. Charles F. Tenney, of the Fifth Avenue Hospital, is greatly appreciated.

## Syphilitic Acute Anterior Poliomyelitis (A Case Report)

By Emil T. Hoverson M.A., M.D., Chicago, Ill.

THE condition known as syphilitic acute anterior poliomyelitis is but rarely encountered as a clinical entity, and it is therefore thought to be of sufficient importance, when a case does come to the attention of a physician, that it should be recorded. Only eight authentic instances of this condition have thus far been recorded. The literature was summarized several years ago by Christman,<sup>1</sup> at which time he added the eighth case. Since that summary, Roger<sup>2</sup> and his co-workers have written up the description of a sub-acute form of syphilitic anterior poliomyelitis. This case was of three years' duration and progressive in its course. In addition to the motor symptoms, sensory disturbances were also noted. Because of the nature of the symptoms and because of the course of the condition, it is believed that his case does not properly belong to the group of cases of syphilitic acute anterior poliomyelitis.

Although it is known that syphilis may be protean in its manifestations and that it may attack any part of the human body, it is quite uncommon that the symptoms presented are such as to indicate only a motor involvement of the central nervous system. Hence, because of the few recorded cases, and because of the rather unusual location of the syphilitic process, it is believed that this case report will be of value.

### Case Report

The history states that the patient was admitted to the Kankakee State Hospital on March 11, 1933. He was born in Missouri February 1, 1915. As far as could be determined, the family history was negative as to nervous and mental diseases. The patient's early life and development were considered normal. He was the third child in a family of six, all of whom were also considered normal in every way. He had the usual childhood diseases, but they were without ill effects in the way of sequelae. He had an appendectomy some years previous to the present illness.

In August, 1931, the patient developed a urethral discharge following sexual exposure. Careful questioning at this point brought out

the fact that there was no initial lesion on the penis, and there was no history of a secondary rash. However, at the time that he received treatments for the discharge, a blood test was returned as "four plus." From August, 1931, to June 15, 1932, he received rather intensive treatment, for during this period he was given twelve "arm-shots" and twenty-four "hip-shots." This treatment was given by a physician in Arkansas and, from the patient's description, the procedure used in treatment was an accepted form.

In June, 1932, the patient moved from that state into Missouri, and there he was told that his blood was "OK." Upon the advice of a physician, all treatments were discontinued, until September, 1932. During the preceding period the patient was in good health, and was able to work whenever work was available.

In September, 1932, he did not feel so well as usual, and for that reason decided that he should have another blood test. The blood serum showed a "four plus" reaction. He then again placed himself under the care of a physician, and from that time to March, 1933, he was given twelve bismuth injections, and "mercury tablets" by mouth.

In the early part of March, 1933, the patient's parents moved to another house, and it was during the moving period that he noticed that he had a "cold" with a headache. The character of the headache could not be well described by the patient, but it apparently was not so severe that it interfered with his daily activities. On March 8, 1933, as he was at the breakfast table, he noted that he was unable to move his legs and that his arms felt weak. The onset took place within a period of a few minutes. He was placed at once under the care of a physician and, in consultation, the opinion was expressed that a hysterical element might be present. It was for this reason that he was sent to the Kankakee State Hospital for observation.

Examination revealed a white male, appearing to be eighteen years of age, lying quietly on the examining table and in no apparent distress. He talked rationally when questioned. The complaints were: paralysis of the lower extremities; paresis of the upper extremities; and inability to sit erect. In addition there were rectal and urinary in-

continence. All these complaints were of three days' duration.

The heart, lungs and abdomen showed nothing abnormal that could account for the complaints. There was no temperature elevation and the blood pressure was systolic 118 and diastolic 80.

The patient was unable to move the lower extremities and there was marked paresis of the upper extremities. He was able to move his head from side to side only. No pain was elicited upon manipulation of the affected parts. The knee and ankle jerks were bilaterally absent, while the biceps and triceps jerks were diminished, especially on the right. The jaw jerk was normal. Of the superficial reflexes, the corneal and pharyngeal were present, while the abdominal and cremasteric were absent. There was no Gordon, Oppenheim, Chaddock or Babinski sign. No disturbance in sensations to pain, touch or temperature was noted. All the evidence pointed to an involvement of the anterior-horn cells of the spinal column. Not being familiar with syphilitic acute anterior poliomyelitis, the patient was considered as having the ordinary acute anterior poliomyelitis.

Before his removal from this hospital (which cares only for psychotic individuals) a spinal fluid examination was made. This contained 60 percent lymphocytes, but unfortunately the total cell count was not recorded. The fluid was clear in appearance and showed sugar reduction with six drops of Fehling's solution and a positive Ross-Jones protein reaction. As a routine measure, a sample was forwarded to the State Psychopathic Laboratory for a Wassermann test, and their subsequent report showed it to be four plus in 1.0 cc. and in 0.5 cc., and negative in 0.2 cc. The Lange colloidal gold curve was 1111110000. There is no record of a blood Wassermann test. Before the report had been received, the patient was removed from the hospital to his home. Through the courtesy of Dr. E. G. Wilson, of Kankakee, Illinois, the following interim history was obtained:

Since March 15, 1933, the patient has been under continuous antisyphilitic treatment and has received eighty bismuth injections. A single blood Wassermann test was reported as negative in November, 1933.

I examined the patient on January 23, 1934. He was still bedridden and incontinent, as far as the bladder is concerned. All muscles of the four extremities showed some degree of atrophy, but this was most marked in the extensor groups of muscles, especially the quadratus femoris group. The electrical reaction was that of degeneration. The legs were flexed on the thighs and held there by a contracture. There was bilateral toe drop. Obviously no true knee jerk was obtained, but when the patellar tendon was tapped, a small contracture was felt. The ankle jerks were markedly diminished. This was also true for the biceps and triceps, especially on the right.

No sensory disturbance was observed, ex-

cept for hypoesthesia in the region of the great toe, bilaterally.

There was marked weakness of the muscles of the back. No other special neurological findings were noted.

#### Comment

This case is interesting because of the following features:

- 1.—The character of the original syphilitic infection.
- 2.—The acute onset of the paralysis.
- 3.—The almost total absence of sensory changes.

Just why certain patients with syphilis should show an involvement of the central nervous system, and others not show this, is a matter for conjecture. There are various theories, one of which states that the organism of syphilis is of various strains, some having a special affinity for blood vessels; others for central nervous tissue; and others for special organs, etc. It has been stated that the type of infection varies originally in the clinical picture. Thus, when one becomes infected with the strain of organisms having a special affinity for the nervous system, the clinical picture of the onset will show the absence of a chancre or a body rash. In this case there were no signs or symptoms, originally, that pointed to the existence of a syphilitic infection.

The next point of interest lies in the acute onset. Petersen,<sup>3</sup> in a series of published cases, has shown that the onset of anterior poliomyelitis coincides with some definite meterologic change. Further, when such meterologic changes occur, there is a definite period of vaso-constriction, with stimulation. On March 8, 1933, such a change occurred—a definite and abrupt drop in the barometer, followed by an equally abrupt rise, with a drop in the temperature. These conditions give rise to vaso-constriction.

This vaso-constriction, at this time, when other factors were present, together with the known syphilitic infection (and its probable lodgement in the central nervous system), were enough to lower the local resistance and allow the syphilitic process to produce certain changes, which were, in this case, limited to the anterior horn cells.

In the case of normal and abnormal individuals the changes occurring with meterologic variations are known. However, in this case, the discussion cannot but be retrospective, and hence one may only say that the conditions in it are similar to those observed in other instances of a like nature.

It is obvious, from the history and the examination, that the lesion was limited to the anterior horn cells of the spinal column; and further, that the lesion was not uniform in its distribution; instead certain regions of the cord were attacked to a greater extent than others. There was no evidence of any sensory involvement.

Poliomyelitis has a similar involvement of the anterior horn cells, but in this condition the clinical picture is different. The differential diagnosis between the two conditions—that is, poliomyelitis and syphilitic acute poliomyelitis—should include the following points:

1.—**Age:** Although anterior poliomyelitis may occur at any age, the majority of cases are observed in children. Syphilitic manifestations, in the acquired type, are limited to adults.

2.—**Onset:** The character of the onset in poliomyelitis is marked by three fairly distinct stages: systemic invasion, meningeal irritation and paralysis. Syphilitic central nervous system manifestations, on the other hand, although at times acute, follow a rather progressive course, without division into stages.

3.—**Temperature:** Practically all patients having acute poliomyelitis have, at some time, an elevation of temperature, sometimes as high as 105° F. Syphilitic central nervous system conditions are rarely accompanied by fever.

4.—**Sphincteric Control:** Bladder or rectal incontinence is rarely observed in anterior poliomyelitis, and instances of both sphincters being incompetent are of very rare occurrence. On the contrary, bladder and rectal incontinence is not uncommon in syphilis.

5.—**Headache:** This is practically always present in poliomyelitis, and is quite severe in the early stages. In syphilis, however, it is absent.

6.—**Pain:** Pain on passive motion is practically always present in poliomyelitis, while in syphilis it is usually absent.

7.—**Spinal fluid:** In poliomyelitis, during the first week, there is an increase of polymorphonuclear leukocytes; whereas syphilis

rarely shows anything but a lymphocyte reaction.

8.—**Onset of Paralysis:** In poliomyelitis it is quite uncommon for the paralysis to be noted in both legs, arms and the back at the same time. In the recorded cases of syphilitic poliomyelitis, however, this multiple involvement is observed.

9.—**Recovery:** There is always some return of function in anterior poliomyelitis, with the subsidence of the acute stage.

10.—If a positive Wassermann reaction on the spinal fluid is observed, then other maladies besides anterior poliomyelitis must be considered. Thus, Kaliski<sup>4</sup> observed a patient who had almost a typical picture of poliomyelitis, but the presence of a positive Wassermann reaction on the spinal fluid, increased cell count, and globulin, and the response to treatment, ruled out poliomyelitis.

From a consideration of the present case, in accordance with the foregoing differential diagnostic points, I feel that it is not one of ordinary acute poliomyelitis. The presence of the positive serologic findings for syphilis and the increased cell count of the spinal fluid, point to syphilis as the etiologic agent. The location of the disease process and its similarity to other reported cases of acute syphilitic anterior poliomyelitis signify that it is an additional instance of that malady. This is the ninth case of this rare condition to be reported.

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#### GOOD FUN

Forty years and more ago a track laborer on the right-of-way of the Nickel Plate Railway, in Cleveland, saw a man fussing with sets of mirrors in a way which struck his curiosity. The man didn't seem to be a surveyor or an inspector of permanent way. "What," he asked the trespasser, "are you up to here?" "Why, I am trying to measure the velocity of light." "Well, why should any one make such a fuss over a thing like that?" "Oh, because it is such corking good fun." The trespasser was Michelson, and his fun lasted a lifetime. How lightly the genius of optics summed up his ideals—the philosopher's thirst for truth, the artist's struggle for self-expression, the pioneer's wrestle with nature, the prospector's zest for discovery, the idealist's pursuit of supreme excellence—such corking good fun!

—W. E. WICKENDEN, in *Science*, Nov. 24, 1933.

# PHYSICAL THERAPY AND RADIOLOGY



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### FOR PHYSICAL THERAPY

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### FOR RADIOLoGY

HENRY SCHMITZ, M.D., F.A.C.S., F.A.C.R.  
WILBUR H. GILMORE, M.D.

## Recent Developments in Roentgen-Ray Therapy

It appears that the medical profession, and particularly the radiologists, find themselves in a transition era in radiation therapy. It behooves us to pause and inquire into the causes. Radiation therapy has proved to be very successful in the treatment of many benign lesions, such as bleeding uteri and inflammatory diseases. It, also, has given remarkable results in the treatment of cancer, if the cases were diagnosed early and immediately and adequately treated. However, the majority of internal and massive carcinomas have not responded well to radiation treatment. This is due: (1) to the inaccessibility preventing inspection and early diagnosis on the part of the physician; and (2) to the impossibility of the patient seeing an ulcer or feeling a lump. The result is that such cancers are discovered when they have extended to a large size.

Such extensive and deep cancers require radiation therapy applied at a distance from the body. To apply an adequate intensity, cross-firing must be used; that is, the radiation beam is centered upon the tumor-bearing area through multiple fields. If one knows the depth doses of a known radiation beam, and constructs a section through the patient's body, with the growth entered into the section, then the summation of the intensities obtained from each beam gives the total dose attained in the tumor-bearing area.

The most favorable conditions in distant radiation therapy are obtained with gamma rays of radium, due to the short wave lengths of these rays and the possibility of using a

heavy filter. The emerging radiation is composed of very penetrating and homogeneous rays. It is possible to use a large number of r units without damaging the skin and subcutaneous tissues. For instance, a gamma radium pack, applied at distance of 15 cm. from the skin and in fractions, permits the application of doses of 4,000 r to each skin area; while the highest fraction dose attainable with 200 K.V. roentgen rays is limited to about 1,800 to 2,000 r per field.

However, the depth dose of gamma rays of radium at 15 cm. distance is, at 10 cm. depth, about 30 percent of the surface dose; of 200 K.V. roentgen rays at 70 cm. distance, about 46 percent; and of 800 K.V. roentgen rays at 70 cm. distance, about 56 percent. Using 800 K.V. roentgen rays, with a filter of 15 mm. of water, 3 mm. of copper, 2 mm. of lead, 3 mm. of aluminum and 5 mm. of bakelite, ten fractions of 280 to 300 r may be applied to a skin area, or a total dose of 2,800 to 3,000 r. However, the deep dose is 56 percent, hence the depth dose is about 50 percent larger than that from radium.

These observations lead to the conclusion that, in distant radiation therapy, the best results of radiation distribution in the depth of the body are attainable with a radiation obtained from 800 K.V. roentgen rays.

It will take another three years before results with these different qualities of radiations in the treatment of carcinoma can be compared. Until then it will not be possible to acclaim better results for ultra-high voltage roentgen rays, in comparison with gamma

rays of radium and with 200 K.V. roentgen rays. The results so far obtained from "radium cannons," containing four to eight grams

of radium element, justify the experiments undertaken with 800 K.V. roentgen rays.

H. S.

## Physical Therapy in Diffuse Serous Labyrinthitis

By Carl B. Sputh, M.D., Indianapolis, Ind.

**L**ABYRINTHITIS may be caused by circulatory disturbances, producing hyperemia or anemia of the labyrinth, exudations, or hemorrhages; or by nutritive changes, traumatism, etc., causing a temporary or permanent disorder of the labyrinth, depending upon the severity of the involvement. Diseases such as syphilis, leukemia, cerebrospinal meningitis, nephritis, mumps and others are known to produce labyrinthine complications that may end in partial or total destruction of the labyrinth. The auditory nerve is probably more susceptible to drugs circulating in the blood than is any other nerve. We find, therefore, a disturbance in the labyrinth when drugs such as quinine, alcohol, salicylic acid, morphine, tobacco, etc., are used in large doses over a long period of time.

There are various types of labyrinthitis but I shall limit myself to the discussion of the treatment of serous types only.

Serous labyrinthitis is a condition superimposed upon a pre-existing, circumscribed labyrinthitis, or occurring as a primary disease of the labyrinth following acute otitis media or mastoiditis. Probably the most frequent cause of serous labyrinthitis is the absorption of toxic products in the middle ear and mastoid cells. Other causes may be listed as: (1) Inflammatory reaction following a mastoid operation; (2) following a serious attack of rhinitis or sinusitis; (3) edema of the middle ear sometimes extends into the labyrinth; (4) chronic otitis media by extension; (5) infected or impacted teeth.

The symptoms of serous labyrinthitis are: Nausea, vomiting, vertigo, disturbance of equilibrium, rather rapid loss of hearing, and nystagmus to the sound side. The patient involuntarily lies on his sound side, as this causes him to look away from the pillow toward the slow component of the nystagmus—a position of the eyes which inhibits vestibular symptoms. If the patient were asked to stand erect, with his feet together, face forward and eyes closed, he would fall toward the diseased side; that is, toward the slow component of the nystagmus.

### Case Report

Mrs. J. D., aged 38, was referred to me Sept. 2, 1930, by Dr. Jinks, with the following history: Two years prior to her appearance at my office, she had had tinnitus, at times worse, then gradually disappearing. In

November, 1929, she noticed dizziness, accompanied by tinnitus. About one year ago she suffered a complete loss of hearing in the left ear. From that time on she could not hear over the telephone or hear a clock tick. She could not ride in an elevator or even attend a motion picture show without becoming extremely dizzy. At night, while sleeping, she could not lie on her left side without having the sensation of falling. Turning over in bed made her extremely dizzy, even if this was done in a sound sleep. She had to lie propped up in bed with four or five pillows. She would have as many as five attacks a day and never felt free to go anywhere without an escort.

Mrs. D. had been treated by a number of internists and otolaryngologists, with no improvement in her condition. One physician diagnosed her case as toxic thyroid and treated her for that condition, with no results. Both Wassermann and urinalysis examinations were negative.

**Examination:** No abnormal condition or impairment of hearing was present in the right ear.

Upon testing the left ear, I found:

1. The hearing practically gone.
2. The caloric reaction in the affected ear was present. The right or the normal labyrinth pulled the eyes (slow component) to the left, and quick component, to the right or sound side, immediately followed. (Nystagmus is to the normal side.)
3. The patient had a tendency to fall to the left side.

In the absence of a history of any suppurative affection of the ear, and since the test definitely proved an involvement of the left vestibular apparatus, I made a diagnosis of left diffuse serous labyrinthitis.

**Treatment:** The patient refused surgery. Internal medication by former physicians had had no influence on her condition whatsoever. In my desire to help this woman, I suggested a course of treatments with physical therapy and, should this fail, I urged her to undergo an operation, to which she agreed. In order to study her case, I asked her to return to me September 8. During the time I had at my disposal, I looked up the literature on this subject, but found very little.

It is known that diathermy produces heat, hyperemia, relief of pain, absorption, and aids in dissolving exudates. Since negative galvanism liquifies and is a vaso-dilator, I decided, after considerable thought, to give her diathermy treatments, concentrated over the affected side (left), for 20 to 30 minutes,

followed by negative galvanism for 5 minutes, at about 5 milliamperes. I tried to inflate the ear after the first treatment, but the patient fell (to the left side) off the chair as soon as the air entered the middle ear.

Treatments were given every other day. After the second treatment, the patient was able to turn over in bed without becoming dizzy. Following the third treatment I again attempted to inflate the left ear, which she tolerated very nicely, experiencing only slight dizziness. At the end of two weeks (six treatments) she was able to do all of her house work and drive her car with safety. Treatments were then given twice a week for a period of four weeks, with disappearance of

all vertigo, dizziness, nausea, etc. Her hearing returned to almost normal.

I refracted her eyes in May, 1934, at which time she stated that she had been entirely free from dizziness since I discharged her. Her general physical conditions are very much improved and she has gained in weight. She is now able to lie on either side without any discomfort. She attends theatres, rides in elevators, dances, etc. and has a new lease on life.

It has been my good fortune to treat twelve patients affected with serous labyrinthitis with equally as good results as those reported above.

24 Stokes Bldg.

## NOTES AND ABSTRACTS

### The Indiscriminate Use and Rental of Radium

**S**OME states and many communities in the country have little or no radium available, and funds are not always available for the purchase of suitable preparations of radium for use by those physicians who are qualified in radium therapy.

The American Radium Society recognizes that radium is an agent quite as potent for doing harm as for doing good, when used without sufficient skill or training, and with the hope of protecting the uninformed public from serious and irreparable injury from improper and insufficient treatment, its members state that they consider it improper, unethical and detrimental to the science of radiology and to the good of suffering humanity for commercial laboratories to attempt to give advice or directions as to the use of radium in the case of a patient whom the person giving that advice has not even had the opportunity to examine. In other words, it is just as difficult to give such advice and directions as it would be for a surgeon to give directions for the use of rented surgical instruments, so that an untrained physician might attempt an operation.

Various commercial companies advertise, both in the journals and through the mails, medical advice for the purpose of making sales or renting radium or radon. This places these corporations in the field of practicing medicine. The same criticism may be applied to institutions which rent or furnish their radium to those members of their staff or outside of the staff, who are unskilled in radium application, and to many individual owners of radium. The approval of the National Board of Radiological Examiners should be the minimum standard for those

assuming the responsibility for using radium.

The ethical commercial company furnishing radium is a necessity. It is the advertised consulting service that is at fault. It is recognized that such restrictions on the advertising of a medical service should in no way hamper properly qualified radium therapists in obtaining adequate supplies of radium or radon for the purposes in which they are qualified to employ it.

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### Roentgenologic Examination of the Digestive Tracts of Infants and Children\*

**A**NY x-ray examination should be made of the digestive tract, heart, lungs, and osseous system of every new-born baby. Likewise, at other ages, a periodic health examination is never complete unless it includes an x-ray examination. Congenital anomalies and disorders that develop with age, from accidents, etc., often depend on x-rays for diagnosis.

Strictures of the esophagus, due to the swallowing of caustics, usually occur in the middle third. The upper portion of the esophagus appears dilated and ends in a more or less oval outline, from which a narrow, tortuous channel emerges.

A series of roentgenograms should be made in every questionable case of hypertrophic pyloric stenosis, so that, if operation is indicated, it may be done while the child's physical condition is still good. Recurrent vomiting, due to pylorospasm, may be entirely

\**Radiology*, Sept., 1933.

relieved by the knowledge afforded by a roentgen-ray examination. Pylorospasm is frequently associated with elongation of the colon.

Grave gastric syphilitic lesions, frequently seen in children, show definite roentgenologic findings. The stomach may be diminished in size, or may be of dumb-bell shape. There may be ulcer-like involvement of the pyloric region, causing some stenosis. There may be a filling defect in some part of the stomach, with findings similar to those with a new growth.

An appendix which retains the barium for several days after the meal has been eliminated from the colon is likely to be pathologic.

In a case of intussusception, roentgenologic examination will usually locate the site.

Transposition of the viscera is much more frequent than was previously thought to be the case. As a rule, if one viscera is transposed, the other viscera are also.

Roentgen-ray examination is necessary in locating foreign bodies in the lungs, esophagus, stomach and intestines. It will indicate whether they should be removed surgically, depending on their size, condition (as open safety pin), rate of movement, etc. If a foreign body passes through the pylorus, it will usually pass on through the intestines.

Before undertaking an operation for supposed chronic appendicitis, an x-ray examination is advisable to locate the appendix or to confirm the diagnosis. Some other condition may be found to explain the symptoms and make surgical intervention unnecessary.

LEON T. LEWALD, M.D.

New York City.

### Dysmenorrhea and Baths

MOST dysmenorrheic patients are still under the impression that it is unsafe to take a bath during the period. In spite of this old prejudice, baths are not only harmless but beneficial. The complete daily wash is a necessary hygienic measure, but immersion in a warm bath at night is not only salutary, but checks or helps to prevent the onset of aching and discomfort. There is no harm in the continuation of the cold morning bath or cold sponge during the menstrual period. For women subject to severe dysmenorrhea, who are nervous or otherwise unfit for muscular exercise, immersion of the whole body in a hot bath for 10 to 15 minutes just as the period begins is a good prophylactic against pain and will often relieve a patient already in pain.—DR. ALICE E. S. CLOW, in *Brit. M. J.*, Jan. 2, 1932.

### Enlarged Cervical Lymph Nodes\*

THE common practice of immediately excising a cervical node for diagnosis is to be discouraged. A high proportion of diagnoses rendered on this material are inconclusive or misleading. The biopsy does harm in cancer and lymphosarcoma. The therapeutic test by radiation is a better method. Lymphosarcoma recedes rapidly after radiation; Hodgkin's disease slowly; tuberculosis very little and with increased inflammatory reaction; while most metastatic cancers resist. Radiation is the best treatment of most of these cases, as well as a good diagnostic method. Surgery can always be employed later. Persistent hoarseness calls for a laryngeal examination. Chronic pulmonary symptoms now generally receive early study by the radiograph, and pulmonary tumors are thus detected early, and the same method reveals early mediastinal growths.

JAMES EWING, A.M., M.D., Sc.D.  
New York City.

### X-Rays as an Aid in the Treatment of Some Chronic Conditions†

MILD x-ray treatments, given over acutely inflamed areas or organs or over the sympathetic ganglia supplying areas in which disease conditions of the neurovascular type exist, have been of great aid in relieving pain and inflammation and promoting health and normal function.

For many years I have used small doses in treating many cases of sciatica, arthritis, post-influenzal peribronchial infiltration, pulmonic abscesses, prostatitis, angina pectoris, early intramural uterine fibroids and gastric ulcer with hyperacidity and hypersecretion, with quick relief and comfort to the patients. During the past 12 years we have had at least 100 cases of peribronchial infiltration following respiratory infection, in which relief has frequently been secured by from 2 to 4 x-ray treatments through the chest.

Small doses, repeated in amounts and frequency according to the reactions secured, are valuable aids in treating many acute and chronic diseases and assist other physical agents in restoring health.

J. W. TORBETT, M.D., F.A.C.P.  
Martin, Texas.

\**Radiological Rev.*, July, 1934.

†*Texas S. J. Med.*, Nov., 1933.

# A LIVING FOR THE DOCTOR

(The BUSINESS of Medicine)

## Medicine in the New Sociology\*

By M. J. Hubeny, M.D., F.A.C.P., Chicago

TO be of real value any program of activity must be fair, dispassionate as far as personal benefits are concerned, never forgetting that a satisfactory relationship or transaction must be of mutual benefit. In the present stage there is a great tendency to give shoddy service or commodities, stimulated by the profit motive, because this profit motive seems to be deeply ingrained in American business thought.

The profit-competitive system, which worked somewhat satisfactorily so long as unoccupied frontiers could be homesteaded and give the hardy ones an opportunity for self-expression and self-determination of a meagre nature, has completely broken down. Many factors have contributed to this present catastrophe, a few of which are: first mechanization, which, when properly and ultimately utilized, will liberate man from the most irksome and depleting jobs and bestow upon him benefits, heretofore undreamed of; second, rapid industrial control by financial interests that willfully created false values, with inflation, rapid expansion of unsound credit, followed by deliberate deflation, the purpose of which was to force a change in ownership, so that a predatory group could gain possession of desirable assets, such as good improved properties and sound bonds and stocks.

I say "good" and "sound" with some qualifications, because the destruction caused has been so terrific that the government has been called on to help private industries, particularly the railroads, insurance companies and banks, which were considered symbols of success attributed to those fundamental qualities of vision, honesty and industry. I think that we must distinguish the industrialist from the parasites of Wall Street. The former was usually well acquainted with the many details of his business, and his devotion to his enterprise was a great source of pleasure and satisfaction. Then came the World War, which hastened our financial disillusionment.

We have all been engulfed by the cata-

lysm. Now what can be done? Is medicine related to our economic structure? Yes—emphatically yes! When Mike was asked, "Why don't you study medicine?" he replied, "Why should I? The patient isn't working." This anecdote tells more than could be told in several volumes. A corollary to this is: In our economic condition, as it existed up to recent times, the average individual was like the poor Chinaman—a day ahead of starvation.

Medicine, of necessity, has gradually changed from an eleemosynary institution, with all its inadequacies, to a real industry, to a commercial enterprise. In the past we have resented the term "commercialism," but commercialism is a fair exchange of values at a chronological period of activity, which values are ever changing and require frequent adjustments. This definition was reasonably applicable before the occurrence of the maladjustment which is confronting the world now; measures which could have been revamped gradually, in a transition period of several generations, are now abruptly thrown in the laps of every person, every industry, every activity.

The magnitude and variety of involvement distinctly show that all activities are related and consequently must be integrated. There is no sense in making a thousand hats if there are only three people in the world. Gears must mesh in order to function.

I think we can be proud of being physicians. Obviously, we might not be appreciated; however, in reality, we are, because doctors are fundamental economists; because they try to make sick human beings comfortable economic units; because they have, from time immemorial, contributed to human welfare without a remote thought of gain; because our code of ethics is now being emulated in the adoption of codes for the regulation of industry. I do not mean to insinuate that there are no honest persons in other pursuits. There are many, and they are the ones who insist on the adoption of those codes of higher ethics, thereby tending to eliminate dishonest practices and racketeering.

\*Presented at the third Conference of the American College of Radiology, Chicago, Feb. 11, 1934.

Physicians have a tendency towards idealism and ordinarily cannot assume a harsh attitude in driving a financial arrangement for service rendered. Because of this generosity the medical profession has contributed free services to the extent of many hundreds of millions of dollars annually, thereby saving capital that much legitimate expenditure, which should rightfully be absorbed by our economic structure.

One hears so much about the income "brackets"; those of the indigent, those of the socalled middle class and those of the well-to-do. That is antiquated. Why should we have so very many poor people, a relatively small group of middle class and a very few of the well-to-do? Such a condition cannot persist. In a land of plenty, with people willing to work, with so much ingenuity, why have poverty and starvation? When the universities added the humanities to their curriculums they sensed the trend of the times. We have before us, conditions that have developed a social consciousness. Are we going to recognize this trend and participate in the formulation of the new conducts, or will we proceed along the drifting, stagnating forces of *laissez faire*? Many new patterns will have to be cut and there is an inadvertent tendency, from forces without, to socialize medicine; however, it can be taken for granted that when medicine finally becomes completely socialized, so will all other industries, and my own personal conviction is that it would not be a bad arrangement, if ideally practiced. What that idealism could be is not at present predictable, because it appears difficult to anticipate just what government supervision will be practiced, how it will be modified from time to time, because nothing is static, everything is in a state of flux; but certain it is, that government supervision is necessary to integrate all socalled business walks of life, with the objective of giving each one security from unemployment, old age and sickness. Our old profit-competitive system is through!

As an expedient, an intense nationalism will have to be fostered; concurrently, however, international policies along certain lines are desirable, and these could be expanded when needed. A planned economy is in the making; minimum wages, maximum hours, codes of fair practice, increase in income tax rates, decentralization, maximum profits, elimination of cultivation of marginal lands, reverting of monetary control to the government, are monumental and far-reaching and, in a sense, the degree of governmental supervision depends upon the hostility or cooperation of the already well organized enterprises, so that management and direction can be placed in private hands, but supervised by the government to the extent that

it functions for the commonwealth. We will have a controlled self-government in all industries, unless complete socialization becomes necessary. The prosperity of one depends on the prosperity of all. Economic laws work slowly but surely and, if violated, a penalty ensues.

For several years the cost of medical service was seriously studied and no reasonable conclusion could be reached, though many plans were formulated. The purpose was laudable, but might it not have been advisable to study commodity prices, wages, etc., and see what relationship existed between commodities and services, more particularly medical? For, after all, this is the most vital service in the world. Why couldn't some effort be made to correct and blazon to the world the brazen falsifications of cigarette, cosmetic and drug manufacturers, who impose upon the credulity of the public, thereby doing inestimable physical harm, as well as encouraging the spending of money which could be used for proper medical assistance?

When one considers that the average yearly earnings of a physician are variously estimated to be from \$1,000 to \$3,000 (this was before the depression), it becomes apparent that the practice of medicine is not a lucrative profession; consequently, one can dismiss, as erroneous, the conception that medical services are burdensome because of the great reward of the physician; there are other causes which have nothing to do with medical men, chief among which is that our capitalistic system has paid such small salaries to its employees that these employees could not buy the needful things, let alone the filling of their wants. The medical profession has at all times contributed freely and heavily, without compensation.

Since the changes taking place in this country are being affected by codification of industries, it seems that organized medicine should have proper representation on appropriate national committees, so that correct analyses of position, function and relationship could be made in harmony with the need of the times. The American Medical Association, through its Bureau of Economics, could function efficiently and militantly, and it is hoped that it will participate as our emissary.

It appears that there are too many societies, that have some real or imaginary reason for their existence. There has been a cleavage in medical activities; the formation of special societies has caused, in some instances, a supercilious attitude. Regardless of the original stimulus, their abolition should take place because of the reduplication of effort, the false expenditures of time and money with the minimum amount of return, and because the American Medical Association, as now constituted, is equipped to cover

all the activities, scientific, educational and economic.

Specialization has been the apparent causative factor in the formation of many societies. With this there was a temporary change of relationship, in which the family doctor was unconsciously thrust into a seeming position of inferiority, which was reflected in his earning capacity. No such relationship should be perpetuated by wilful acts of organized medicine. The family doctor is the first contact man. Some bemoan his passing, but he has not passed into oblivion; his prototype exists, but he has progressed with the times, his relative efficiency has been increased and at all times his interests must be our concern.

The formation of specialized medical organizations tends toward the creation of guilds, which is a fatal mistake, as this intensifies minor differences which may assist in our destruction, because it promotes a lack of cohesion. We must not forget that economic causes outside of medicine are chiefly responsible for our difficulties, therefore it is more imperative that the entire medical profession tolerate minor intrinsic differences, handle them courageously and fairly.

Another economic abuse that demands correction is the lack of compensation for services rendered to the body politic. Why should doctors continue to give service to institutions that are tax-supported, without some financial reward? The only argument that is advanced is that a rich experience is acquired. This is economically unsound, as there could be no valid objection to rendering a vital community service and receiving a reasonable compensation for it.

The technocrats were not so far wrong when they theorized on the erg and foot-pound-second concepts. How can the bases for comparative fees be computed? For instance, a roentgenologist can do a very com-

prehensive gastrointestinal examination, which consumes time and material and to which he might contribute much experience, after which the surgeon will remove a pathologic appendix, devoting the same amount of time or less, and receive ten times the fee. How can this be reconciled? It is admitted that the surgeon should receive more because his task is depleting, but how much more? That is the question.

The ideal arrangement would be for the medical profession to own and run its own hospitals, participating in all their business and professional conducts, even centralizing their offices there; or, if this is not possible, making some arrangement to rent the institution and utilize it as a private industry.

There is one mechanism that can assist medicine to be better understood by the lay people; namely, publicity, conducted with full adherence to ethical codes. Our profession lends itself beautifully to publicizing its usefulness, and during such an activity it can be reiterated that medicine not only requires an intellectual training, but apparatus and physical equipment to function properly. By emphasizing this point, we will inculcate in the minds of the people the fact that medical services cost money to perform. An appreciation of this fact by the lay people will inure to the benefit of the entire profession.

This discussion is not intended to be harsh, it is merely considering some of our problems, with an earnest desire to present their somewhat dreary and perplexing phases for the general consideration of the whole medical profession; for it is only by a full understanding of our common problems that such cohesion will be promoted as to insure the militancy needed for survival of the profession, as an undertaking in humanitarian principles and as a source of a decent and wholesome life for the doctor and his family.

25 E. Washington St.

## NOTES AND ABSTRACTS

### The Healing Professions in Politics

**M**EDICINE must assume the leadership and responsibility in things medical, and particularly it must assume its unqualified right to prohibit lay individuals or groups unfamiliar with medical precepts from taking over the responsibilities belonging to the medical profession.

During the past few years of general unrest, the trend has been that of interference. The medical profession has more than its share of interfering agents. The great bulk of these

restrictions are being imposed upon us by non-medical people, who have not the interests of the public at heart and whose interfering policies will result in the breaking down of our high standards of medical practice. In the end, the public will suffer for all of this.

Realizing that the independence of the healing professions is in danger, the Allied Professional Society (see "CLIN. MED. & SURG.", Sept., 1934, p. 433), composed of physicians, dentists, pharmacists, nurses and technicians, has decided to form a political bloc and do

something toward looking after the welfare of these groups.

To that end, the Society is sending the following questionnaire to every man in Illinois who is a candidate for office at the coming election. This could, of course, be readily adapted for use in any state. The replies received will be broadcasted to the physicians and other health workers in Illinois.

1.—What is your attitude to organized ethical medicine, as represented by the Illinois State Medical Society?

2.—The Illinois State Medical Society prohibits all physicians from advertising. This has been done to protect the public from unscrupulous persons. The medical fraternity wished to pass a *law* prohibiting *all* physicians from advertising. Will you cooperate with the Illinois State Medical Society in bringing about such legislation?

3.—Are you willing to confer with and consider the opinions of representatives of the Illinois State Medical Society on all medical legislation that may be brought up during your term of office?

N. S. ZEITLIN, M.D.

Chicago, Ill.

### Faith Cures and Psychotherapy\*

IT is time physicians were waking up from their long lethargy and realizing the truth. Christian Science and other mental healing cults possess a power for good in certain lines of practice. It is painless, no bitterness in the remedy, no unpleasant effect; helpful, easy, inspiring. This is clearly for the reason that it appeals to the mental and the spiritual in man—and half of the diseases and troubles of humanity lie in that domain. Medical men are not sufficiently aware of this fact. These people effect cures undoubtedly through the mind. The effects of the mind upon the material body are powerful beyond conception.

These mental healers are not self limited, not passing fads; they are real and are spreading, to the advantage of many patients of a certain class, but unfortunately to the death of others. Perhaps with the passing of time they will learn their limitations and confine themselves to the class of cases they can undoubtedly benefit.

The point is that the doctor should realize the great possibilities of faith cures and increase his own healing powers by becoming an expert in psychotherapy. He should be so thoroughly posted in the art, and should understand his patient so well, that his whole personality expresses self confidence, based on intimate knowledge, for the patient is keenly alive to his reactions and will read

him quickly. This mastery is a gift with some men; others have to cultivate it. Faith can accomplish wonders.

The doctor often has to be more minister than physician and administer to the mind and soul, as well as to the body, if he would be successful. In the practice of psychotherapy the physician must be broad in his sympathies, deep in his understanding of human nature, and especially must he show profound interest in the patient before him. The physician should not only be able to impress the patient favorably, but he must have privacy and quiet, so that the story will be fully told. The light must be at the doctor's back and in the patient's face. Much can be seen at a glance, but careful study of many things is necessary to arrive at a proper diagnosis and to learn the proper procedure in the particular case to get the best results in controlling the mind.

No two human creatures are alike; all are very unlike. After all the hereditary influences are duly considered, there is the individual side of the patient to study; his customs, habits, restrictions or freedom; his happiness or great unhappiness; his home and possible domestic difficulties; his independence or financial troubles and worries; his ambitions, thwarted or realized; his successes and failures; his anxiety and doubts; and even his religion. What impediments, dietary, occupational or hereditary may possibly have been in the way of superb development of the endocrine system, which lies at the base of health, happiness and success; or what burdens may have been laid on these wonderful glands that may have reduced them to low functioning power, thus affecting the body and its organs, the mind and life.

The doctor should be strongly endowed with patience and should elicit from all kinds of patients the worst they know and fear. He must constantly be weighing in the balance birth, heredity, blood, social status, finances, domestic affairs, business, personal habits, racial traits and the very many things in human life and health, while he keeps in mind great human differences. He must even, in so far as possible, put himself in the place of the patient with all his ills and troubles, so that he may understand fully and get the patient's viewpoint. Then he can advise well.

It will happen in some cases that there is still concealed at the last some one thing of most importance; a troubled conscience, some idea of sin unforgiven, or hidden fear of mortal disease, probably insanity, that will tax the skill and persuasive eloquence of the physician to disclose. But when the whole story is confided to the physician in whom the patient has an abounding faith, half the work is finished in psychotherapeutic treatment and the rest is easy, though it may take some time to effect a complete cure.

\*Excerpts from an editorial in *Med. Rec. & Annals*, Oct., 1932.

It is necessary to keep in close touch with the patient for some time to drill his mind thoroughly in the direction of a more hopeful attitude. Some medicine is well, if only as a placebo, but there is usually some disturbance of function or some organic disease needing attention. In order to maintain close contact for mental boosting, ultraviolet rays or other such treatment may be used. It is well to take the blood pressure as a routine and listen to the heart and to examine any painful place and to repeatedly give an optimistic prognosis. The patient will usually co-operate actively and live as directed in diet, exercise, rest, necessary abstinence in habit, and he will be able to contribute much to his recovery. With a bright outlook kept before him, he is happy and hopeful and improves rapidly.

It is time thoughtful medical men were looking over the valuable points in all the faith cures and systematizing them under scientific psychotherapy, to the great benefit of a horde of sufferers. The truth is that many individual physicians have done so and are highly successful. This treatment presents immense possibilities and is worthy of careful consideration.

J. S. LANKFORD, M.D.

San Antonio, Tex.

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I appreciate CLINICAL MEDICINE AND SURGERY far beyond my ability to express. Without such aid in my daily practice, I should be at a loss.—P. G. W., Louisiana.

### Harley Street Physicians Collect

HARLEY STREET, London, is the famous abode of England's foremost specialists, and these gentlemen, according to *Medical Economics* for September, 1934, are not above demanding their fees for professional services, cash on delivery. When a patient calls at the office of one of these men, he is expected to pay before he leaves; and when a general practitioner calls one of them in consultation, he inquires what the fee will be and sees to it that his patient has the required sum on hand. Many of us might take a tip from these celebrities.

### Tell the People About State Medicine

I AM against any form of socialized medicine so far described. The thought conveyed by the name is admirable and most certainly appeals to the masses who, now more than ever before, expect all things free of any charge or responsibility.

Every discussion I have read, in lay periodicals, is in defense of the system or an appeal worded to extoll its laudable points. For those hoping to get in "on the ground floor," writing in its favor has many merits. On the other hand, every paper against the idea of socialized practice seems to be written to medical journals for consumption by physicians who already ought to know what it is all about and where they stand.

The point I have in mind is that, instead of trying to tell us what we have realized for some time, those men who wish to spread the truth about the exploitation of the public and profession (and that is exactly what it would turn out to be), either by the state or by corporations, should bend their efforts to explain to laymen the weak points of any system of cheap medical service.

Any code of ethics which would attempt to hold back physicians as a group, and prevent them from preserving standards won by hard work and often by sacrifice, is obsolete under present circumstances. For that reason, I fail to see why there should not be concerted action by the profession in making the public see the dangers which are imminent, if they allow any form of politics or corporations to dictate medical policies.

HERBERT J. WING, M.D.

Maywood, Ill.

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[This is a simple and direct statement of a condition of things that ought to be remedied promptly. Some day rather soon it may be too late.

If a thousand or so physicians, all over the country, would write an article of 500 to 1,000 words, setting forth what will happen to the people under State Medicine, and get it published in their local newspapers, much good might result. Why not appoint yourself a committee of one to attend to this matter in your locality—not "some other time," but today.—Ed.]

### ALL PAY TAXES

Don't be fooled! Everyone pays taxes—25 cents out of every dollar—and everyone is in danger of being forced to pay more. A reduction in taxation, through less tax spending, is essential.—Richland County (N. D.) Farmer.

# THE SEMINAR

(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

## Problem No. 9 (Medical)

Presented by Dr. James H. Hutton, Chicago  
(See CLIN. MED. & SURG., Sept., 1934, p. 438)

**R**ECAPITULATION: A woman of 26 years had headaches from 7 days before to 7 days after each rather scant menstrual period, with fainting, and attacks of tachycardia, heat intolerance and free perspiration. There was trouble in digesting starches.

She had had an appendectomy, carbon monoxide poisoning and one stormy pregnancy. She had received many diagnoses, from colitis to migraine.

Examination showed nothing abnormal except a pulse of 100, with slightly low blood pressure; pubic hair of the male type and head hair of pituitary type; a tender abdomen of the pituitary type; basal metabolism, plus 31 percent; and a slightly low blood-sugar.

Five (5) units of pituitrin caused unpleasant symptoms; while 0.5 cc. of antituitrin made her feel better. Three (3) minims of 1:1,000 epinephrin solution caused a marked tremor, without increase in the pulse rate.

**Requirement:** Suggest diagnosis and treatment.

**Discussion by Dr. E. C. Junger, Soldier, Iowa**

This woman should have been more careful when she selected her parents and maybe grandparents. She no doubt had a dozen or more neurotic aunts and sisters and maybe some uncles or boy friends not so well grounded physically.

This type of girl is the product of environment. She was led to believe when her menses began she would bleed to death or faint in church, or the "B.O." would advertise her condition if she got near a man.

I can not conceive how the people at Rochester made the diagnosis of nervous breakdown or migraine, as a disease, unless they wanted to get the patient out of the Clinic and use their time on those having physical lesions.

Girls need to be taught hygiene and sex and how to live and work and eat and play, by someone who knows; not to be impressed

by some neurotic, lovesick young female who knows nothing of life and its problems.

**Discussion by Dr. E. O. Houda, Tacoma, Wash.**

Dr. Hutton's patient is afflicted with a metabolic disturbance peculiar to thyroid disease. This is one of a large variety of thyroid perversions that are generally classed under the so-called "fruste" types—types of thyroid disease that burn low before ultimately flaring up as distinctly hyperthyroid, and with thyroidism which fluctuates between hypo and hyperthyroidism, as noted in this case. This condition is commoner than is generally recognized. I see cases of this nature almost constantly.

Recently a barely palpable thyroid was removed from a young woman of 26 years, who had a similar history of appendectomy and tonsillectomy. These surgical procedures had failed to correct recurring attacks of nervousness and tachycardia, whose origin had been a mystery for more than ten years. She was very reluctant to submit to removal of a part of the thyroid, and not until after she was satisfied that anti-goiter immunization was effective (as it proved to be before five inoculations were administered), would she consent to the resection of a part of each lobe. Within a few minutes of this removal, the usual specific microbes were demonstrably present in the removed tissue, and they have since been cultivated in pure culture.

This patient will be postoperatively immunized with autogenous vaccine, following which every nervous manifestation is definitely expected to be cured within thirty days, at most. Her most important wish will be satisfied, in that a marked under weight (96 pounds, with a height of five feet six inches) will be corrected.

**Discussion by Dr. M. Bernreiter,  
Kansas City, Kansas**

I believe this patient to be suffering from hyperthyroidism, and base my diagnosis on the free perspiration, tachycardia (pulse rate 100 per minute with temperature of 98°F.) and the basal metabolic rate (plus

31 percent). The marked tremor after administration of three minimis of 1:1,000 epinephrin solution is also suggestive of hyperthyroidism, but to complete this socalled Goetsch's adrenalin sensitization test, a close observation of the blood pressure should have been made, as a positive test is one in which the systolic pressure increases from ten to fifty mm. Hg. in the first five minutes, and the diastolic pressure usually falls slightly; half an hour later a second rise in blood pressure takes place. Although the pulse rate of patients under this test increases at least twenty beats per minute, this was not observed in this case.

The gastro-intestinal disturbances reported, as also the exaggeration of symptoms during pregnancy and the lately diminishing menstrual duration, can all be explained by the existing hyperthyroidism.

One must, of course, keep in mind the fact that, in any disturbances of this kind, a pluriglandular dysfunction may and often does exist.

**Treatment:** Physical and mental rest. If the patient refuses an operation, x-ray therapy to the thyroid should be given a trial, as it proves successful in more than fifty percent of the cases. Lugol's solution should be given, 10 to 15 minimis (0.65 to 1.0 cc.), three times a day, for two weeks before thyroidectomy.

If the diagnosis is correct, the patient should improve under Lugol's solution, but the operation should not be delayed too long as a result of the improvement.

#### Solution by Dr. Hutton

On the basis of her sweating, weakness, tachycardia and increased basal metabolic rate, there was some question of a Graves' disease. She was consequently given Lugol's solution, ten minimis three times a day. She was of the opinion that this made her feel better.

On the basis of her headache at the menstrual period; her height (which showed a normal amount of the growth hormone dur-

ing her prepuberal years); carbon monoxide poisoning (which sometimes damages the pituitary); her inability to take care of starches; a decrease in the duration and profuseness of the menstrual flow; and the stormy pregnancy, a diagnosis was made of a deficiency of the anterior pituitary lobe, particularly the sex hormone.

Antuitrin, one-half ampule three times a week, accelerated the improvement begun by Lugol's solution. The headaches disappeared; the menstrual periods were more profuse; paroxysmal tachycardia has not occurred lately. Her strength is such that her husband has some difficulty in keeping up with the gait which she sets.

#### Problem No. 11 (Economic and Ethical)

Presented by Dr. Oswald C. J. Withrow, Toronto, Can.

1.—A physician was invited, by a group of chiropractors, to address them on certain phases of obstetrics and gynecology. He complied, presenting the matter, as might be expected, in a perfectly scientific fashion and as a teacher. The irregulars were grateful.

2.—I was called, by a chiropractor, to see a woman, 83 years of age, who had been suffering for weeks from extensive gangrene of the leg. She was comatose and died within three hours of my visit. I signed the death certificate, chiropractors not being allowed to do this in our Province.

3.—Diagnostic machines, and others for treatment, are being widely used by irregulars, and the public is flocking to their manipulators; but regular physicians seem loath to accept anything good which the cultists may be using.

**Requirements:** (1) Were the actions, reported in paragraphs Nos. 1 and 2, ethically and economically sound or not? Why? (2) Suggest a solution of the problem outlined in paragraph No. 3.

#### PRECEPT OF THE TOSHOGU

Life is like unto a long journey with a heavy load. Let thy steps be slow and steady, that thou stumble not. Persuade thyself that imperfection and inconvenience is the natural lot of mortals, and there will be no room for discontent, neither for despair. When ambitious desires arise in thy heart, recall the days of extremity thou hast passed through. Forbearance is the root of quietness and assurance for ever; look upon wrath as thy enemy. If thou knowest only what it is to conquer, and knowest not what it is to be defeated, woe unto thee! It will fare ill with thee. Find fault with thyself rather than with others. Better the less than the more.—Ancient Inscription in the Toshogu Temple, Nikko, Japan.

# CLINICAL NOTES and ABSTRACTS

## Ambulatory Treatment of Rectal Diseases

THE latest books on proctology devote considerable space to the ambulatory treatment of rectal diseases. Even the daily papers have had numerous articles by their medical writers on this subject. Hemorrhoids, especially the internal ones, which are by far the most common, are being treated successfully by the injection method, by many physicians who are familiar with this treatment. In fact, it is the method of choice with all who are skilled in its technic, because the surgical treatment cannot guarantee satisfactory results and requires a period of hospitalization.

The hospital expense and loss of time from work are obviated by using the ambulatory method. Some of the large industries recognize this and recommend that their employees take the ambulatory treatment rather than submit to the usual surgical treatment.

Under ambulatory treatment some minor surgery is done. External thrombotic hemorrhoids are slit open and the clots turned out and skin tabs are cut off with scissors, under a local anesthetic.

Probably the greatest advance made in ambulatory methods has been in the treatment of fissures, sometimes called ulcers of the anal canal. Under the surgical procedure, the entire area is dissected out, leaving a very painful, slow-healing wound. Under the ambulatory method, a divulsion is done, either under a perianal anesthetic or a short nitrous oxide or ethyl chloride general anesthesia, and the fissure simply scraped, to destroy the pyogenic membrane. By using Barr's improvement of St. Mark's solution\* under the fissure, there is no after-pain and the patient is relieved at once. The fissure heals in four or five days.

Papillae, polypi, crypts and fibroid hypertrophies are treated surgically, but, with the use of a local anesthetic and improvement in technic, these conditions are easily taken care of by ambulatory methods.

Of course, cancer is too serious a condition to be treated by ambulatory methods, though with radical surgery, x-rays or radium, the end results are about the same. Those practicing ambulatory methods usually refer cancer cases to some physician who is specializing in treating those conditions.

\*Anesthesine, 3%; benzyl alcohol, 10%; phenol, 1%; olive oil, 86%.

Ulcers of the rectum are often associated with ulcerative colitis; and while those ulcers that come within the reach of the proctoscope and can be treated topically are often healed, they are prone to recur unless the general ulcerative condition above is cleared up.

Probably the most difficult symptom the medical profession has had to cope with, in connection with rectal diseases, is pruritus ani. There are so many theories as to the cause of this distressing symptom that there is no one method of attack which has proved successful in all cases. No doubt there are several different causes, therefore the mode of attack must vary with the cause. Among the most plausible etiologic theories accepted are: food and chemical allergies, local and systemic; bacterial infections; mucous colitis; acidosis; and neurosis. Before applying a successful treatment, it is necessary to ascertain which of these causes, or combination of causes, are responsible for the pruritus ani, and then the proper treatment can be given by ambulatory methods.

The most striking improvement, over the usual treatment, is exemplified in the treatment of fistula by ambulatory methods. Under the old surgical treatment, hospitalization was required in every case, with a general anesthetic, followed by from three to six weeks of total disability. According to statistics, only about 50 percent of these operations were successful, and even then there was great destruction of tissue, with frequent incontinence of feces. Under ambulatory treatment of fistula, there is practically no loss of time from work, no hospital stay, no general anesthetic, practically no destruction of tissue, and never a case of incontinence produced. The percentage of permanent cures is about 98.

In my personal practice, over a period of 20 years, covering thousands of cases, all of my patients who have followed up the treatment faithfully, have been permanently healed. One reason for this is that the cases are taken on a flat-fee basis and followed up for months, if necessary, without any additional cost. This gives the physician a chance to follow out all the fistulous tracts and side channels, one by one, and thoroughly clean them up before dismissing the patient; while under the old surgical treatment, where the whole job is

undertaken at one sitting, the field is so bloody that side pockets are often overlooked, or the pyogenic membrane is not entirely dissected out, and the work done is done in vain.

Custom and precedent have such a strong hold upon the medical profession that many stick to the old established methods of treating rectal diseases, even though a treatment much safer, more efficient, and more acceptable to the patient, has been developed.

The trouble with many physicians who undertake the treatment of rectal disorders by ambulatory procedures, is that they read a description of the treatment in some book or magazine, and then proceed to try to carry it out. If a complete and thorough description of all the measures utilized, with the fine points in technic, suitably illustrated with cuts, was published, it would make a good-sized book; and even though a physician had such a book, he would need much actual experience in the practice of the technic before he would be regularly successful.

DON CABOT McCOWAN, M.D.

Chicago, Ill.

### The Place of Iodine in the Treatment of Goiter\*

HERE are only two general indications for the use of iodine in connection with goiter: (1) As a means of prophylaxis against endemic goiter; and (2) in the management of hyperthyroidism preparatory to operation.

A study of 90 patients showed that those who had taken iodine for more than a month were sicker than the average and were poorer operative risks. Those who had taken iodine before coming to the hospital for operation reacted poorly to the preoperative treatment with iodine, rest and sedation.

The long-continued administration of iodine in hyperthyroidism increases the risk of surgery and prolongs the duration of the condition.

DRS. H. M. CLUTE AND L. S. PILCHER.  
Boston, Mass.

### Tannic Acid in Rectal Prolapse (A Case Report)

A CHILD, four years old, suffering from pertussis and prolapse of the rectum, was brought to me on June 19, 1934.

The prolapse gradually became worse until July 20, when the rectum was extruded fully four inches. The child was not in good condition for operation, on account of a heart disorder, so I decided to try Amertan.

Two strips of plain, sterile gauze, 2 x 4 inches, were crossed at the center and saturated with Amertan. I then lubricated my gloved index finger with KY jelly and in-

troduced the crossed parts of the gauze strips into the lumen of the bowel, gently reducing the prolapse. The finger was then withdrawn, leaving the gauze in place, and the buttocks were strapped together with adhesive plaster. Ten (10) drops (0.65 cc.) of paregoric (*Tr. Opii Camphorat.*) were given three times a day.

This process was repeated every 12 hours for four days, when the prolapse ceased to recur and the child seemed to be completely cured.

I firmly believe that the tannic acid in the Amertan exercised a sustained and beneficial effect in this case.

GEO. C. CROSTON, M.D.  
Sapulpa, Okla.

### Intravenous Use of Hydrochloric Acid in Urologic Practice\*

FROM my experiences with intravenous therapy, I have come to the conclusion that there is no drug that will exert a germicidal action in the blood-stream nor produce a so-called specific effect.

Hydrochloric acid (1:1,500 or stronger) intravenously administered, is far superior to intramuscular injections of the various milk preparations, mercury or bismuth, subcutaneous administration of the various vaccines, and the intravenous administration of mercurochrome, neoarsphenamine or mercurosal. Any one of these may produce more or less systemic reaction, pain and sometimes anaphylactic shock, while the intravenous administration of hydrochloric acid solution does not cause any pain or primary or later shock.

Hydrochloric acid, given intravenously, will increase the red and white blood cells and hemoglobin.

I have obtained startling results with solutions of hydrochloric acid in the preoperative preparation of transurethral prostatic resection and other urologic cases. In the latest series of transurethral prostatic resection cases, there have been no primary or delayed hemorrhages, no shock and absolutely no postoperative infections.

The intravenous administration of hydrochloric acid solution will produce leukocytosis and phagocytosis, thus raising the resistance of the individual so that he can better combat his infection. Especially in the old, it has proved most satisfactory in preventing shock, primary and delayed hemorrhage and postoperative infection.

Results in the treatment of acute and chronic gonorrhreal urethritis, prostatitis, seminal vesiculitis and rheumatism have been more satisfactory with the intravenous administration of hydrochloric acid than with any other treatment I have ever used.

\**New Eng. J. of M.*, Jan. 18, 1934.

\**Urol. & Cutan. Rev.*, Sept., 1934.

In the treatment of these prostatic and seminal vesicle infections, it is necessary that massage of the prostate gland and seminal vesicles be systematically carried out, in connection with the intravenous administration of hydrochloric acid solution. This is necessary to remove the accumulated pus and cellular debris from the inner spaces of the glands and vesicles. It must be remembered that, should pus form in the gland, incision and free drainage should be carried out at once.

I wish emphatically to state that there is absolutely no reaction, danger or ill effect from the intravenous administration of hydrochloric acid solution. I have given several thousand intravenous injections and have not seen a single reaction or bad effect.

COURTNEY W. SHROPSHIRE, M.D., F.A.C.S.  
Birmingham, Ala.

### Abdominal Pains in Pregnancy\*

A CLINICAL study of abdominal pain has been made from 300 consecutive private obstetric cases. Although the pregnant woman is not immune to any of the other causes of abdominal pain, most of the pain is the direct or indirect result of either uterine enlargement or uterine contraction. Much of the pain is somatic, arising in the parietes of the abdomen.

The anatomic origin of abdominal pain in pregnancy may be grouped as follows:

1.—*Abdominal parietes* (anterior and lateral abdominal muscles with their fascial coverings, extensions and insertions; the subperitoneal tissue and the parietal peritoneum; the lower part of the thoracic cage; the pelvic girdle; and the pelvic and costal diaphragms).

2.—*Uterus, its contents and adnexa:* This includes pain caused by uterine distention and (or) contraction, by rupture of the uterus, by changes (torsion of a pedicle, degeneration, infection, etc.) in a uterine fibromyoma, by ectopic gestation, by stretching and contraction of the round ligaments, by changes in the ovaries, and (rarely) by salpingitis.

3.—*Extragenital locations*—intestine, liver with bile passages, and urinary tract. Any pre-existing pathologic condition in the liver and biliary tract is almost always worse during pregnancy. Intestinal pain may be due to gas or stasis, to increased peristalsis with loose stools, to obstruction, or to pressure of the enlarging uterus. Pain in the urinary tract may arise in the bladder, but usually arises in the abdominal ureters and renal pelvis and results chiefly from infection and (or) stasis.

Age apparently exerts no influence on abdominal pain in pregnancy. Primiparas

complain slightly more frequently than multiparas. Pain is more frequent in the lower than the upper part of the abdomen, and in both more on the right side. Factors in the production of the pain include the walking and sitting positions, sudden body movements, coughing, sneezing, vomiting, jolting, jarring and weak feet, faulty shoes, relaxed sacro-iliac joints, disturbances of equilibrium, etc. Breech presentation of the fetus is commonly associated with distress in the upper abdomen. Abdominal scars seem to have little to do with pain in pregnancy. In 47 patients with scars of varying age, length and location, pain was present in only seven.

Eighty-five percent of pregnant women complain of definite abdominal pain at some period. The incidence of pain increases with each month up to the last, at which time there occurs a marked decrease.

STUART B. BLAKELY, M.D.  
Binghamton, N. Y.

### Lowering Appendicitis Mortality\*

THE following measures should be used in order to reduce appendicitis mortality:

1.—Immediate operation on every instance of acute appendicitis seen within the first 36 hours.

2.—Immediate operation in most cases who have had a purgative, regardless of duration.

3.—Delay in most cases after 36 hours, when one is certain that the patient has not had purgatives.

4.—Exercise of careful judgment in the individual case as to whether and when to operate, but the avoidance, when possible, of operation from the thirty-sixth hour until the seventh day.

5.—Operation only by experienced abdominal surgeons.

6.—Use all possible operative aids.

7.—Improvement in methods of technic, especially in reference to drains.

8.—Education, personally and *en masse*, against the taking of purgatives when acute abdominal pain is experienced.

J. R. VERBRYCKE, JR., M.D.  
Washington, D. C.

### Vitamins

THE biochemists are themselves largely responsible for the sensational but false physiology and therapy which have arisen around the vitamins; for, like all specialists, in trying to rule the whole from the part, they have failed in philosophy.

Nobody questions the value of vitamins, nor the specific action of each, so far as it is known, so when the biochemists delivered

\*J. A. M. A., Sept. 23, 1933.

\*A. J. Digest. Dis. & Nutrition, Sept., 1934.

the results of their experiments, the biologists could soon place them. But as the experts in endocrines sought to make the body, mind and spirit mere attributes of the hypophysis, so have the biochemists investigating vitamins given to their subject an exalted position in nutrition which it does not possess.

When we know all, we shall probably find that the value of an organ is proportionate to the quantity of it required by the organism; but, until we do know all, it is hazardous to ascribe to any small structure, or to any substance required by the body in small quantities, any of the major functions of life. Nutrition is impossible without vitamins—that is established—and if any vitamin is withheld the body will develop specific departures from health which are preventable by, or curable by, its exhibition, provided that the body is otherwise healthy and supplied with nourishment adequate in all other directions. In the absence of sufficient intake of the basic elements of diet, the vitamins can do nothing, for they themselves are not nourishment and cannot replace it. If the basic diet is adequate, the exhibition of vitamins may produce marked benefit when for any reason the basic foods are deficient in them; but generally the basic foods contain adequate vitamins, so their further supply is unnecessary.

[This statement by the Editor of *The Medical Officer* is one of the best on this important subject that we have ever seen in print.—Editor *The Medical Times* (London), Aug. 1934.]

### Desensitization by Nasal Ionization\*

AFTER seven years' work, during which I have given 274 treatments to 225 patients, with 209 cures and 16 failures, I have decided that intra-nasal ionization, using an alloy of zinc, tin and cadmium as an electrode and the salts of these metals as the electrolyte, is the most satisfactory method of desensitizing individuals to pollens and foods.

Unless the patient is unusually hypersensitive, one treatment is quite sufficient, and some patients have remained immune for as long as seven years.

No damage is done to the nasal membranes by the ionization treatment, as evidenced by laboratory examinations of specimens of tissues from three different cases.

The reactions are not only local, but systemic.

Patients who have had the ionization treatment report they are less susceptible to colds afterward.

The same good results that I have obtained, have also been obtained in other parts of the United States in the past year; on the whole,

an average of 90 percent cures is estimated.

This treatment is contraindicated in cardiac cases; and in bronchial asthma there is an immediate, but temporary, exacerbation of the symptoms, which subsides in from 24 to 72 hours and, while present, can be relieved, to some extent, by injections of epinephrin.

HAROLD L. WARWICK, M.D.

Fort Worth, Tex.

### Management of Edema\*

A FEW established facts for the practical control of edema are as follows:

1.—The state of the kidneys, save under exceptional conditions, has little to do with the retention of fluid in the body. In acute nephritis, salt and water retention may occur, due to kidney damage. In chronic and subacute diseases, however, sufficient renal function is usually preserved to carry on adequately, even in the presence of gross kidney damage.

2.—The restriction of water intake, save under unusual conditions, does not materially contribute to the relief of edema. The radical restriction of fluid is not included in the ideal dietetic regime.

3.—In the presence of failing circulation, with increased hydrostatic and filtration pressure, edema appears to be due in part to mechanical interference in circulation and to interference with peripheral cellular physiologic processes, such as the O-CO<sub>2</sub> exchange. Measures to improve the circulation constitute an important part of the therapy of edema of this type.

4.—The serum proteins appear of primary importance in maintaining osmotic equilibrium between the cellular elements and fluids of the body. The maintenance of a normal serum-protein level in disease is quite important, as the physiologic integrity of the tissues is largely dependent upon the availability at all times of an adequate supply of serum-proteins. When the proteins are depleted below a level of 3 or 4 grams percent, edema may appear as a compensatory process.

The protein content of the serum should be maintained by sufficient diet in all metabolic diseases. Except in the presence of nitrogen retention, this may be accomplished without difficulty. Blood transfusions or the intravenous injection of gum-acacia solutions may serve as temporary substitutes.

5.—Disturbances of the acid-base equilibrium of the serum are probably of secondary importance in determining the state of hydration of the body. Sodium makes up more than 90 percent of the total base of the blood serum and extracellular fluids. With

\*Texas State J. of M., July, 1934.

\*Ann. Int. Med., August, 1933.

a low serum-protein, the amount of edema is determined chiefly by the amount of salt administered in the diet. It is easy to control the total base by withholding salt. Chloride acts as a vehicle for the metals. Edema is not due to inability of the kidneys to excrete chloride, and the total chloride of the diet is probably of little practical significance.

In prescribing a practical diuretic regimen or a patient, the selection of a diet which will meet the nutritional requirement is of first importance. Ideally, foods should be selected which leave a neutral or acid ash and which have a low sodium and high potassium content. Salt (sodium chloride) should not be used; potassium chloride, used as a condiment, makes a fairly satisfactory substitute. (Potassium is distributed chiefly within the cells, whereas sodium predominates in the intercellular fluids.) It is possible to eliminate edema in many cases solely by dietary measures. Results may occasionally be enhanced by inducing diuresis with mercurial or other diuretic preparations.

CHARLES A. ELLIOTT, M.D.

Chicago, Ill.

#### A Sensitive Test For Subclinical Scurvy In Man\*

OBSErvATIONS of experimentally produced scurvy in guinea pigs on deficient diets suggest that a similar condition exists in man. In the present studies I have applied to groups of persons a technic which I found useful in studying experimental forms of the disease. This is the method of measuring capillary resistance, as devised by Hecht. In this, negative pressure is used, applied to the surfaces of the skin through a suction cup connected with a mercury manometer and vacuum pump. In many persons the test will show differences in capillary resistance readings in different areas of skin; also excessive stretching of the skin during the administration of the suction may produce petechiae through mechanical stretching of the capillaries without true increased fragility of the vessels. Scurvy is one of the factors which influence capillary resistance.

Changes of values of capillary resistance in an individual case or differences in average values for groups of persons are of diagnostic value. The evidence which suggests that, in such persons, with changes showing improvements in capillary resistance, subclinical scurvy is being dealt with is this: the only difference known which would distinguish one tested group from another and which might influence capillary resistance is that of diet. No dietary factor other than vitamin C is known to influence the capillaries.

\*Am. J. Dis. Child., Oct., 1933.

In a group of children from poor homes, the incidence of subclinical scurvy, as estimated by this method of testing, was found to be between 35 and 66 percent.

GILBERT DALLDORF, M.D.  
Valhalla, N. Y.

#### Herpes Zoster Treated With Pituitary Solution\*

OF 16 patients with herpes zoster, treated with pituitary solution, 11 were well in an average of 8½ days; 2 were improved; 2 were unimproved; in 1 the result was unknown. Of the same number of patients treated by other methods, 5 were well in an average of 11 days; 1 improved; 4 unimproved; and 6 with result unknown.

The patients were given a total of 38 injections, averaging 2.4 injections per patient, given intramuscularly every other day. In the case of elderly patients, 0.5 cc. was given for the first injection, and for middle-aged and younger patients, 1 cc. Three injections sufficed in almost all cases and, following the first, the amount injected was 1 cc. in all but four cases.

H. D. NILES, M.D.  
New York City.

#### Induction Of Labor By Artificial Means†

AN attempt was made to induce labor in 150 obstetric cases, in which pregnancy had progressed beyond the period of viability, by employing a combination of castor oil and quinine, nasally applied pituitrin and artificial rupture of the membranes. There were only two failures. The average duration of labor was 9.65 hours for primiparas; 3.93 hours for multiparas—considerably below the averages for labors of spontaneous onset occurring over the same period.

There was no maternal mortality; fetal mortality was 2 percent or less; morbidity was negligible.

The fact that most of the cases were selected at or near term militates in favor of success for the method and must be considered in judging the results.

No recommendation is made to employ this method as a routine. That it possesses certain advantages in a case demanding induction is evident; it has the high degree of certainty of the known operative procedures without entailing their fetal mortality, and it appears to be as innocuous as the various medicaments employed for inducing labor and far surpasses them in expectancy of success.

\*New York St. J. M., July 1, 1932.

†Am. J. Obst. and Gynec., Sept., 1933.

The most serious limitation to its use is in women in whom the presenting part is floating.

DANIEL G. MORTON, M.D.  
San Francisco, Cal.

### Clinical Applications of Human Blood Groupings\*

BLOOD grouping depends upon the fact that the blood serum of certain persons will agglutinate the red blood cells of others. In clinical practice, the thing to avoid is the agglutination of the red cells of the donor by the serum of the recipient.

There are four blood groups which, according to the International or Landsteiner classification (now most widely used), are designated as: A, B, AB, and 0. In the United States, 39 percent of those tested are in Group A; 10 percent in Group B; 3.7 percent in Group AB; and 45 percent in Group 0.

The substances in the red cells which permit them to agglutinate are called agglutinogens; while the substances in the serum which cause the clumping of the cells are known as agglutinins. The reactions between these four groups are shown in the accompanying drawing, in which the lower, shaded portion of the test tubes represents the red cells, or agglutinogens, and is lettered according to the groups, while the upper part represents the serum and is numbered to correspond with the types of agglutinins, No. 1 being the alpha type or anti-B, and No. 2 the beta or anti-A.

Because, in clinical practice, the clumping of the red cells of the donor is the thing that must be avoided, those in Group 0, who have no agglutinogens of either type, become the "universal donors"; while those in Group AB, who have no agglutinins of either type to clump the red cells of any of the others, are "universal recipients." The serum of a "universal donor" (Group 0) will be quickly diluted by the blood of the recipient, if its agglutinating titer is not excessively high, in which case it might be dangerous. In all persons, this titer may be high, low or atypical, and this, as well as the actual grouping, should be tested in all cases before transfusion is performed.

The qualities tested in blood groupings are present, not only in the blood, but in all the tissues and fluids of the body, and they never change, in life or even after death. They are inherited according to Mendel's laws, the agglutinogens A and B being dominant, and their absence recessive. It is said that the blood in Egyptian mummies 5,000 years old can be classified by the same tests now in use in living persons.

The distribution of the various groups is characteristic for the various human races, and remains so, irrespective of changes in environment. For example, in the United States, 45 percent of the people are in Group 0; while among the South American Indians this group includes 90 percent of the people, and in Asia only 20 percent.

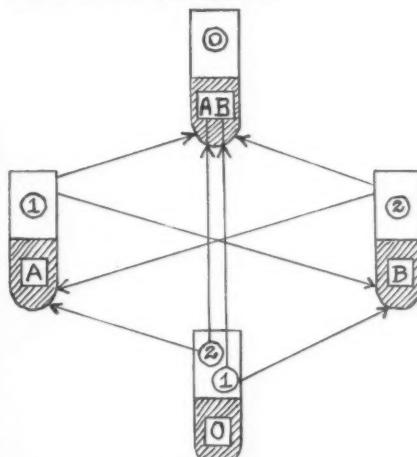


Fig. 1.—Diagram of Blood Groupings. Arrows show the directions in which agglutination takes place. For example, the red cells of a patient in Group B will be clumped by the serum of a donor in Group A or Group 0; while the serum of such a patient will clump the red cells of persons in Groups A and AB.

Before every blood transfusion, cross-agglutinations of the donor and recipient should be made, if it is at all possible to do so, even where a parent is the donor for a newborn child or the same donor is used for the same recipient on different days. In spite of all precautions, reactions will sometimes occur. If the recipient complains of cough, backache or precordial pain, the transfusion must be stopped at once. In fact, it is a good plan to stop all transfusions for 10 minutes, after 50 to 75 cc. of blood have been introduced, and watch for reactions. If none appear, the procedure may be continued.

Better results in transfusion are obtained by using a small syringe, because the blood is out of the body of the donor a shorter time before it enters the body of the recipient; and the moment blood leaves the vessels it begins to undergo the changes whose endpoint is the formation of a clot.

It is always better if the donor will fast for 5 or 6 hours before a transfusion, and abstain from smoking for at least 2 hours.

In skin grafting, the surgeon should choose the donor only after blood typing and cross-agglutinations have been carried out. It is also well to do a cross-agglutination and choose a proper donor for intramuscular injections of blood, as the substances transferred

\*Abstract, by G. B. L., of a talk before the Medical Round Table of Chicago, July 10, 1934.

remain in the recipient's system longer if this is done.

For typing blood, the general practice today is to use known serums of Types A and B, which can be procured commercially. It is best to make the test on a slide, and use a microscope, but this is not absolutely necessary.

ISRAEL DAVIDSOHN, M.D.

Chicago, Ill.

Supernumerary Testicles  
(A Comment)

I HAVE noted in your journal ("C.M.&S.", Sept., 1934, p. 422) a communication by Dr. W. T. Jones, of Laurel, Delaware, mentioning a case of a man with three testicles.

Before one makes a diagnosis of the existence of an extra testicle, a thorough search of the literature will reveal that no authentic cases have been reported. Tumors on one or the other side of the scrotum, which resemble testes in consistency, size and form, upon investigation have been found to be either an encysted hydrocele or a benign tumor.

Dr. Jones will render medical science a great service if he follows up this case. If he finds his diagnosis to be actually correct, the case, by all means, should be reported in extensive detail, with corroborative evidence. Until this has been done, I would be hesitant to speak of a supernumerary testicle.

MAX THOREK, M.D.,

Chicago, Ill.

Typhoid Vaccine In The Treatment  
Of Chorea\*

IT has been repeatedly observed that the course of chorea is sometimes favorably influenced by an intercurrent fever. In drawing our conclusions regarding the efficacy of typhoid vaccine in the treatment of chorea we took full cognizance of the various factors which make such treatment difficult.

Our method consisted in injecting intravenously a mixture of typhoid, paratyphoid A and paratyphoid B vaccines, each cubic centimeter containing 500,000,000 of typhoid and 250,000,000 of each of the paratyphoid organisms. The initial dose was anywhere from 0.15 to 0.2 cc.

Twenty-three (23) cases of chorea, 9 of which were chronic, were treated in this way;

19 were entirely symptom-free at the time of discharge from the hospital. Of the 9 chronic cases, in which the average duration of the symptoms was 4½ years, 1 showed a persistent talkativeness and 1 a persistent blinking of the eyes, but all other symptoms had disappeared. One patient who suffered from chorea for 2 months was improved, but we were unable to follow our observations on her because of transfer to another hospital. Only one of the 23 patients, a subchronic one, was definitely refractory and the twitchings and irregular movements persisted in spite of the treatment; nevertheless, when this patient returned 3 months later for follow-up examination, he was entirely well. A re-examination of 11 cases, 3 to 15 months subsequent to discharge, showed 7 and possibly 8 to be entirely well, in spite of the fact that over 50 percent of them belonged to the class of chronic chorea.

No untoward effects were noticed in any of the patients from the vaccine injections. While the number of cases is not very large, nevertheless the uniformity of favorable results points to this procedure as a valuable method in the treatment of chorea, and its effectiveness is especially emphasized in the obstinate and chronic cases.

AARON CAPPER, M.D. and  
EDWARD L. BAUER, M.D.

Philadelphia, Pa.

Avertin in Tetanus\*

DURING the past year, Avertin was used in the treatment of tetanus in four cases at the Massachusetts General Hospital. There was never the slightest difficulty at any time in their preparations. The injection was given by means of a funnel or syringe and a male catheter, using no force. The effects were manifested in a very few minutes. The dose used was 80 mg. per kilogram of body weight.

In the symptomatic treatment of tetanus, a sedative is very frequently and definitely indicated. Avertin maintains a definite sedative action, often to the point of complete anesthesia, for a period of about five hours. There is a milder action for three or four hours longer. We have encountered no bad results from the use of Avertin in tetanus. It has been our custom to test the blood-pressure at frequent intervals while the patient was under the influence of this drug, whose main value over many other sedatives is its more prolonged and efficient action.

Drs. F. A. HARRISON AND H. L. HIGGINS.

\*Am. J. Med. Sc., Sept., 1933.

\*J. Missouri M. A., Aug., 1934.

# THUMBNAIL THERAPEUTICS

## Treatment of Coryza

A CONTROLLED study of many popular methods of treating the common cold, indicates that the best results are obtained with a combination of  $\frac{1}{4}$  grain (16 mgm.) of codeine with  $\frac{1}{4}$  grain (16 mgm.) of papaverine, at one dose at bedtime. The nasal discharge and congestion are much diminished or completely eliminated.—DR. H. S. DIEHL, of Indianapolis.

## Dilaudid for Pain in Cancer

MORE than 100 patients with painful, incurable cancer have been treated with Dilaudid. Although not a perfect opiate, this drug is the most valuable one so far obtainable for the relief of pain. Although Dilaudid was the cause of addiction in 2 cases, there were many in which it was used for a long time without withdrawal symptoms.—DR. C. MALONE STROUD, of St. Louis, Mo.

## Sodium Morrhuate for the Treatment of Varicose Veins

FOR the treatment of varicose veins, sodium morrhuate has marked advantages over other sclerosing solutions. It is a stable solution. The 3 percent solution can be safely used in stellate or "spider burst" veins, without the least fear of necrosis. The usual strength of the solution for the general run of varicosities is 5 percent, in doses of 2 to 10 cc. For very obstinate varicose veins, the 10 percent solution can be used in doses of from 2 to 8 cc. This solution causes no general systemic reaction.—DR. F. L. SMITH, of Rochester, Minn., in *J. A. M. A.*, Dec. 10, 1932.

## Tannic Acid to Control Alarming Hemorrhage

IN a case of alarming hemorrhage from a septic incised wound which could not be checked or controlled by the usual methods, the patient's condition became critical. As a last resort, powdered tannic acid was applied to all of the bleeding surfaces of the wound and two dry gauze packs, generously sprinkled with tannic acid, were placed in the wound and the patient returned to bed. Immediately following the

application of the tannic acid, all hemorrhage was arrested and there was no further recurrence of the bleeding.—DRS. J. C. AND J. M. FLEMING, in *J. Indiana S. M. A.*, Oct. 15, 1932.

## Antitoxin in Scarlet Fever

ON the basis of controlled clinical studies, we are of the opinion that, in spite of the large number of serum reactions (36.3 percent), antitoxin is indicated in the severe and moderate cases of scarlet fever.—DRS. P. F. LUCCHESI AND J. E. BOWMAN, in *J. A. M. A.*, Oct. 6, 1934.

## Physiologic Effects of Acetanilid

CONTINUOUS ingestion of large amounts of acetanilid over long periods has no injurious effects on animals. Twelve (12) grains a day, for 16 weeks, produced no deleterious effect on human beings. Acetanilid is not a circulatory depressant. The cyanosis seen at times is not dependent on the drug, but on the individual predisposition of the user.—SAMUEL T. HELMS, M.D., Abst. in *Chem. Absts.*, July 20, 1934.

## Carbon Monoxide Poisoning

DEATH from carbon monoxide poisoning is chiefly, if not wholly, due to swelling of the brain and asphyxia, rather than to true toxic action. The treatment based upon this reported fact (which is successful) is the immediate administration of oxygen, with or without carbon dioxide, and measures to reduce the blood fluids—phlebotomy, lumbar puncture and catharsis, while withholding all liquids, by mouth or otherwise. Blood transfusions have probably killed a good many such patients.—DR. R. R. SAYERS, U. S. Pub. Health Service, quoted in *Literary Digest*, Mar. 24, 1934.

## Eclampsia

HERE is no routine method of treatment of eclampsia; we must treat each case as an entity. I incline to the sedative method, using plenty of morphine. The toxemia should be combated with dextrose, intravenously. I am also convinced that para-

thyroid extract should be administered; the dose has not been regulated, but depends on the condition of the patient, 20 units every 12 to 24 hours, although as high as 80 units has been given at one time with beneficial results. When the convulsions are controlled, labor should be induced.—DR. S. S. JONES, of Tacoma, Wash., in *Northwest Med.*, May, 1932.

### Narcolepsy

THE increasing incidence of narcolepsy is due to the recent epidemics of encephalitis. Treatment with ephedrine sulphate, by mouth, relieved cataplexy in 2 cases, but had little effect on the morbid somnolence.—DRS. G. T. HARDING AND T. BERG, in *Ohio St. M. J.*, Aug. 1932.

### Diet in Bright's Disease

A MORE intimate knowledge of the pathology of both acute hemorrhagic nephritis and chronic degenerative Bright's disease would indicate that, in both forms of nephropathy, the patient should be given diets containing liberal amounts of protein: in the former disease 150 Gm. daily and in the latter even more. Experience has shown that such an allowance facilitates recovery. In nephrosclerosis, different conditions obtain, but the diet should be fairly liberal—it should provide approximately 75 Gm. to 100 Gm. of protein daily.—DR. JAS. S. MCLESTER, of Birmingham, Ala., in *J.A.M.A.*, July 16, 1932.

### Purpura Hemorrhagica

IN treating purpura hemorrhagica: (1) give small, whole-blood transfusions frequently enough to keep the bleeding time under control until the danger is past; (2) eliminate infections; (3) give a high-protein, high-vitamin diet, with 40 drops of viosterol or Haliver oil with viosterol 250 D three times a day during the hemorrhagic period; (4) give 60 to 90 grains (4 to 6 Gm.) of iron, or iron and liver extract, three times daily; (5) administer heliotherapy or ultraviolet irradiations daily; (6) in some cases, apply high-voltage x-ray treatment over the spleen occasionally; (7) as a last resort, remove the spleen.—DRS. H. W. JONES AND LEANDRO TOCANTIS, in *J. A. M. A.*, Jan. 14, 1933.

### Diet in Psoriasis

A LOW-PROTEIN diet, without any other treatment, will often cause a disappearance of the eruption of psoriasis. In the average case, it is enough to eliminate meat, fish, fowl, eggs, meat-stock soups and internal organs from the diet; but, unless the case is carefully supervised by a physician, large quantities of vegetable proteins may undo all the good results.—DR. J. F. SCHAMBERG, in *J.A.M.A.*, May 7, 1932.

### Intestinal Oxygenation in Idiopathic Ulcerative Colitis

XYGENATION of the intestinal tract has been productive of encouraging results in the treatment of 40 patients with idiopathic ulcerative colitis. Following emptying of the bowels, oxygen is released into the rectum through an ordinary enema tube. About 250 cc., given on alternate hours between 8 A. M. and 8 P. M., can be tolerated by the average patient. The total gas passed in this time is nearly 2 liters.—DR. JOS. FELSEN, of New York, in *Arch. Intern. Med.*, Nov. 1931.

### Treatment of Nephritic Edema

THE principles of treatment of nephritic edema are the following: Restriction of fluids; restriction of sodium chloride to about 2 Gm. a day; diet liberal in proteins, if the edema is accompanied by copious albuminuria; diuretics; diaphoresis, if the condition of the heart permits; purgation by magnesium sulphate.

In cases of edema plus marked renal insufficiency threatening uremia, it is safer to treat the insufficiency first and take care of the edema after the uremic symptoms have subsided.—DR. G. GINSBURG, of Philadelphia, in *M. J. & Record*, Oct. 5, 1932.

### Physostigmine Increases Gastric Tonus

PHYSOSTIGMINE increases gastric tonus and peristalsis. This drug is of great benefit in the roentgenologic examination of the stomach, in patients with absent or sluggish peristalsis or atony. The average dose is 1/25 grain (2.6 mg.), orally.—DRS. P. F. BUTLER AND M. RITVO, of Boston, in *J. A. M. A.*, October 15, 1932.

## NEW BOOKS

**I** Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Medical & Dental Arts Bldg., Waukegan, Ill., is accompanied by a check for the published price of the book. **II**

*To add a library to a house is to give that house a soul.—CICERO.*

### Wakeley: Treatment in General Practice

**M**ODERN TREATMENT IN GENERAL PRACTICE. Edited by Cecil P. G. Wakeley, D.Sc., F.R.C.S., F.R.S.E., Editor of "The Medical Press and Circular." Baltimore: William Wood and Company. 1934. Price, \$4.00.

The articles of which this volume is composed are written for the general practitioner by the specialist, and are designed and intended to set forth concisely and interestingly the latest progress made in medicine and surgery, with special stress on diagnosis and treatment. They cover a wide range of subjects, and an equally extensive range of thought, for the contributors have been drawn from almost every school and every part of the country.

Diagnosis is, of course, vastly important, but what patients want is effective treatment. Among the subjects practically considered in this valuable book are: acute circulatory failure; obesity; sudden insanity; migraine; vertigo; nasal catarrh; blood transfusion; and many others.

### Thomson: Influenza

**A**NNALS OF THE PICKETT-THOMSON RESEARCH LABORATORY. Volume X. Influenza. Part II. With Special Reference to the Complications and Sequellae, Bacteriology of Influenza Pneumonia, Pathology, Epidemiological Data, Prevention and Treatment. By D. & R. Thomson. Published for The Pickett-Thomson Research Laboratory. London: Bailliere, Tindall and Cox. Baltimore: The Williams and Wilkins Company. 1934. Price, \$17.50.

This monumental treatise is completed by this massive Part II, containing more than 900 pages, nearly 200 of which are occupied by the bibliography and indexes. More than 4,500 research papers on this subject have been collated and abstracted.

This volume deals with the complications and sequelae, bacteriology of influenzal pneumonia, pathology, epidemiology and treatment of the disease discussed. Part I, dealing with the etiology of influenza, was reviewed in CLINICAL MED. & SURG. in April, 1934, page 200.

There is no treatise on influenza, in English, which is comparable in completeness with this, and the two parts are indispensable to

any reference medical library, of whatever size, and will be of great value, as a reference book, to any physician who is specializing in respiratory diseases. The book represents a stupendous amount of labor. The paper, typography, indexing and general arrangement are beyond criticism.

### Ogino: Physiologic Birth Control

**C**ONCEPTION PERIOD OF WOMEN. By Dr. Kyusaku Ogino, Head of the Gynaecological Section of Takeyama Hospital, Niigata, Japan. English Translation by Dr. Yonez Miyagawa, Director of Government Institute for Infectious Diseases, Tokyo Imperial University, Hongoku, Tokyo, Japan. Leatherette Binding. Harrisburg, Pa.: Medical Arts Publishing Company. 1934. Price, \$1.00.

This book gives a presentation of the author's clinical research on the subject of natural birth control, extending over a period of fifteen years. Working independently of one another, Dr. K. Ogino, of Japan, and Dr. Herman Knaus, of Austria, arrived at practically identical conclusions and established the existence of definite and determinable periods of sterility and fertility in women. Their findings have become known as the Ogino-Knaus theory, and have been supported by the independent research of medical scientists in Europe and America.

Dr. Ogino has based his theory upon the duration of the period of ovulation in the human female and the viable period of the ovulated ovum and of the spermatozoa. Based upon his observation of these factors in a great number of cases, he has reached the conclusion that the period during which conception is possible does not exceed eight days in a twenty-eight day cycle.

In order to estimate the conception period with certainty, it is necessary to have drawn up in advance a menstruation calendar, by which the moving scope of the menstrual cycle has been determined, and then the scope should be established from a comparison and summary of the minimal and maximal menstrual cycles in the previous twelve periods. The predicted conception period is computed from the first day of the conception period in the minimal cycle to the last day of it in the maximal one.

A complete statement of the facts upon which this theory is based is presented, together with full details of preparing the

menstruation calendar. Charts and tables are used freely and a considerable bibliography is appended.

Physicians should be familiar with this method, whether they use it or not, and a book by its discoverer should be authoritative.

### Worcester: Hygiene

**H**YGIENE FOR FRESHMEN. By Alfred Worcester, A.M., M.D., Sc.D., Henry K. Oliver Professor of Hygiene, Harvard University, Springfield, Ill. and Baltimore, Md.: Charles C. Thomas. 1934. Price, \$2.50.

The purpose of this little book was to save the author's freshman students the distraction of taking notes on his lectures. It might do the same for such students in other schools.

As a manual of help for those who are teaching hygiene to young people who are unfamiliar with biology, it should serve a worthwhile purpose.

### Jarcho: Postures in Labor

**POSTURES & PRACTICES DURING LABOR AMONG PRIMITIVE PEOPLES.** Adaptations to Modern Obstetrics. With Chapters on Taboos and Superstitions and Postpartum Gymnastics. By Julius Jarcho, M.D., F.A.C.S., New York. With 130 illustrations. New York: Paul B. Hoeber, Inc. 1934. Price, \$3.50.

This is a companion book to Jarcho's earlier work, "The Pelvis in Obstetrics." It deals with obstetric phases of the bony pelvis which are not generally covered to any appreciable extent in the ordinary textbooks of obstetrics. One would hardly expect to learn much, if anything, of value to the modern scientific obstetrician from a study of the obstetric customs and folklore of primitive peoples. Jarcho shows, however, that the posture in labor adopted by these aborigines may be applied, with variations, in modern obstetrics to some advantage in the management of difficult cases. An interesting and instructive phase of the subject is the analogy shown by the obstetric postures assumed by lower primates. The influence of dress, diet and environment on the development of the bony pelvis is well covered. A chapter of unusual interest is that devoted to postpartum gymnastics, a subject which has been largely, if not altogether, neglected by most obstetric authors. The book is richly illustrated, many of the pictures and diagrams being original; and a fairly comprehensive bibliography is appended.

### Morgan: Mental Health

**K**EPPING A SOUND MIND. By John B. Morgan, Professor of Psychology, Northwestern University. New York: The Macmillan Company. 1934. Price, \$2.00.

The point of view which underlies the content of this book is that mental health is dependent, in large part, upon the formation of

certain mental habits and the elimination of certain others. It is believed that it is just as easy to form the beneficial habits as it is to fall victim to the detrimental habits, if the person involved can be given a clear conception of their relative significance. Furthermore, it is believed that the practice of those habits which bring mental health is just as enjoyable, or more so, than the practice of the pernicious mental habits which lead to mental disease. It is ignorance that does the damage.

This book puts in understandable form the basic principles involved in the preservation of one's own health. The style is somewhat heavy and pedantic, rather than definitely attractive, but as the purpose seems to have been to prepare a textbook for study, rather than a volume of disguised and pleasurable instruction, that may not be a real drawback. The list of questions at the end of each chapter and the inclusion of an index indicate and further this purpose.

It seems fairly certain that any physician or intelligent layman who will use this work in the way it seems to have been intended to be used, will have a sound and reasonably adequate understanding of the basic facts of mental hygiene and the keeping of a sound mind, and for this purpose it is recommended.

### Williams: Russia

**RUSSIA, YOUTH AND THE PRESENT-DAY WORLD: Further Studies in Mental Hygiene.** By Frankwood E. Williams. New York: Farrar & Rinehart, Inc. 1934. Price, \$2.50.

A beautiful, glimmering lake, with a few ripples here and there to break the monotony of the scene, with an atmosphere of peace and harmony surrounding it. That is the picture Dr. Williams would paint for us in describing the present-day Russia. What he does not show, however, are the under-water currents, the hidden snags and the dangers that are present, but not obvious (to him), below.

Dr. Williams states that he has tried to give a composite picture of the Russian youth of today. He tells of their outlook on life, their godless "religion," their schooling, sex education and home life. What the author really does describe is an ideal civilization as he sees it and one which, with a few exceptions, could be accepted by the average individual as being something worth striving for.

Dr. Williams says, "People are impressed by new experiences and situations in a great part by their old experiences and situations." It is quite evident that the author is a victim of his own observation, for he shows quite clearly that he is influenced by ideas that he has formulated before examining the Russian situation. He does then, if one reads between the lines, give us a description not of modern Russia as it is, as a whole, but of a Russia he has manufactured in his own mind, his ideas having been converted to the Russian cause because of a few impressions he has received in visiting Russia, a country so large and its scattered inhabitants so different that no

single standard could be accepted by all and in such short order.

If one reads this volume as a cleverly written presentation of one man's ideas of what the social order *should* be, it may open interesting fields for thought and discussion. If considered as an actual picture of what present-day Russia is—except in the show-places through which foreigners are regularly conducted—it might produce dangerously erroneous impressions, for godlessness is not the way to social rehabilitation.

J. R. C.

### Muller: Applied Anatomy

**A**PPLIED ANATOMY. The Construction of the Human Body Considered in Relation to its Functions, Diseases and Injuries. By Gwilym G. Davis, M.D., Late Professor of Orthopedic Surgery and Associate Professor of Applied Anatomy in the University of Pennsylvania. Ninth Edition. Reset, Re-illustrated and Completely Revised by George P. Muller, M.D., Professor of Clinical Surgery, Graduate School of Medicine, University of Pennsylvania. Assisted by Bernard J. Alpers, M.D., Robert A. Kimbrough, Jr., M.D., Stirling W. Moorhead, M.D., I. S. Ravdin, M.D., S. Dana Weeder, M.D. Illustrations by Erwin F. Faber. Philadelphia, London, Montreal: J. B. Lippincott Company. 1934. Price, \$9.00.

The aim of this book is, not to teach plain anatomic facts, but to show the relation of structure to function, under normal and pathologic conditions. It is explanatory and utilitarian, not encyclopedic, and thus is intended for those who have some knowledge of the basic structure of the body, to enable them to put this knowledge to work in the treatment of the sick. The fact that this is the ninth edition of the work called for since its first appearance in 1910, proves that it has met a real need.

Practically all of the illustrations (and they are many, excellent and frequently in colors) are from original drawings, most of which are semi-diagrammatic, in order to bring out surgical principles.

This ninth edition (a splendid piece of book-work) has been completely revised, partly re-illustrated and entirely reset, and is just the kind of book that every clinician, especially surgeons and general practitioners who do surgery, should have at hand at all times, for quick, easy and helpful reference.

### Fishberg: Hypertension and Nephritis

**H**YPERTENSION AND NEPHRITIS. By Arthur M. Fishberg, M.D., Associate Physician to Beth Israel Hospital; Associate in Medicine, Mount Sinai Hospital, New York City. Third edition, thoroughly revised. Illustrated with 39 engravings and 1 colored

plate. Philadelphia: Lea & Febiger. 1934. Price, \$6.50.

The vast majority of individuals who suffer from the hypertensive and renal diseases must be taken care of by the family physician, whose laboratory facilities are generally limited. This fact has been borne in mind in the preparation of this work. Particular attention has been given to symptomatology, so fundamental to accurate diagnosis. A simple technic for the uncomplicated specific gravity test—the best method for studying the functional capacity of the kidneys—is provided, as are simple and inexpensive methods for determining excretory capacity. The diets recommended can readily be prepared at home, under the direction of the physician. The work reviews the entire literature of the subject and summarizes all of the information, therapeutic and diagnostic, that practice, clinic and laboratory have revealed.

This book is invaluable to those engaged in the practice of medicine, as it represents one of the most comprehensive works on the subject. It is written from the point of view of clinical medicine and serves as well at the bedside as in the library. The book work is excellent; the index and bibliographies ample for all practical purposes.

### Cowdry: Histology

**A** TEXTBOOK OF HISTOLOGY. Functional Significance of Cells and Intercellular Substances. By E. V. Cowdry, Professor of Cytology, in the School of Medicine, Washington University, St. Louis, Mo. Illustrated. Philadelphia: Lea & Febiger. 1934. Price, \$5.50.

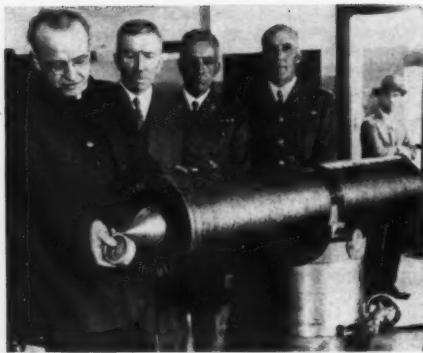
Like bacteriology, pathology and various other basic sciences, histology has seen great changes in the past decade or two. This is a volume of *dynamic histology*, in which much that made up the conventional textbooks of the passing generation is omitted, in order to give the graduate or undergraduate student a perspective picture of the vital essentials, centering around the blood vascular system—to make him feel histology in terms of physiology, biochemistry and pathology.

The formerly-standard microphotographic illustrations are (fortunately) almost entirely absent, so that the student will have to look for these things in the actual specimen—as he should. These splendid pictures (many in colors) are diagrams or semi-diagrams, which set the mind at work and build up workable conceptions.

Here is histology come alive. No student or physician who studies this thoroughly modern book will feel that it is a "dry" subject; and for that reason the older men should read it to get a new grip and a new vision.

The general book work is excellent, and a very full bibliography and index make it a first-rate reference work, as well as one to be read.

# MEDICAL NEWS



(c) Keystone-Underwood.

## A Huge Magnet

**A**N electro-magnet weighing one and one-half tons, said to be stronger than any other of its kind in the United States, has been installed in St. Louis University Medical School, St. Louis, Mo., for removing bits of metal from the body. The photograph shows the Rev. A. M. Schwitalla, dean, demonstrating the magnet.

## Medical History in the Colleges

**I**N Victor Robinson's "Story of Medicine," recently published by Boni, the author deprecates the indifference with which the history of medicine has been treated by teachers in the past. He calls attention to the fact that, at the dedication of the Welch Medical Library, October 18, 1929, a chair of Medical History was established by Johns Hopkins University, an appropriation for this purpose having been made in 1926. By inference, this chair was assumed to be the first one on this special subject in the United States. However, the records show that Ensworth Medical College, St. Joseph, Missouri, instituted a course of lectures on Medical History and Medical Journalism, by Dr. Chas. Wood Fasset, in 1903, and the following year the University Medical College, Kansas City, Missouri, established a similar course, and by the same lecturer. These courses were continued until the Colleges ceased to exist.

## Reorganization of the American College of Proctology

**T**HE American College of Proctology held its eleventh annual convention at the Stevens Hotel, Chicago, in September, 1934.

The constitution and by-laws were very thoroughly revised—in fact, practically re-written. The book of "Annual Transactions" was discontinued, and its material transferred to *The Journal of the A. C. P.*, the official publication of the College. As all papers which, according to the old plan, would go to make up the "Transactions" will now appear in the *Journal*, its value and desirability should be materially improved.

The highlight of the revisions adopted was this:

"The membership of this organization shall be composed of its present members, and all future applicants for membership in this organization shall be limited to physicians with the degree of Doctor of Medicine, who are so registered in their respective states, and who are devoting all of their time or giving special attention to the practice of proctology."

It is reported that, when this plan was adopted, the osteopaths and chiropractors, who had been members of the College, withdrew practically in a body and permanently.

This information will probably be of keen interest to the many proctologists of the medical profession who are not at present enjoying membership in a proctologic society. The twelfth annual convention of the College will be held in Chicago in September, 1935.

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## A Dose in the Cap

**S**OME people in New York have devised a patent cap, to go on medicine bottles, whereby it is possible to measure out the prescribed dose accurately, without using a spoon. This ought to make drinking out of the bottle a safe procedure. Moreover, the only way to get the dose into the cap is by shaking the bottle. The druggist can thus economize on "Shake Well" labels.

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